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THREE WORKS FOR FLUTE BY IAN CLARKE: AN ANALYSIS AND PERFORMANCE
GUIDE

by

Shelly L. Monier

A DOCTORAL DOCUMENT

Presented to the Faculty of
The Graduate College at the University of Nebraska
In Partial Fulfillment of Requirements
For the Degree of Doctor of Musical Arts

Under the Supervision of Professor John R. Bailey
Lincoln, Nebraska

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THREE WORKS FOR FLUTE BY IAN CLARKE: AN ANALYSIS AND PERFORMANCE GUIDE

Shelly L. Monier, D.M.A.

University of Nebraska, 2010

Advisor: John R. Bailey

British flutist Ian Clarke is currently recognized as one of the leading flutist/composers of today. His compositions have been performed at national conventions and used in competitions hosted by the British Flute Society and the National Flute Association and have been included in the Peters Edition reference of the *Edexcel GCSE* (General Certificate of Secondary Education) *Anthology of Music* as a music example of extended instrumental techniques. Many of his works, while heavily influenced by popular music, explore unconventional sounds, using inventive avant-garde flute techniques and notations that are unfamiliar to many flutists. Since there has been little scholarly research done on Clarke and his music, the present document will be a start, focusing on two solo flute works and one flute ensemble piece.

The first chapter of this document provides biographical information about the composer, including his major influences and a list of his most significant works for flute. The following chapters provide an analysis to aid in the performance of the following works: *The Great Train Race for solo flute* composed in 1993, *Zoom Tube for solo flute*, composed in 1999, and *Within...* for seven flutes, composed in 1999 (all published through IC Music/Just Flutes Edition). The author has selected these specific

works because they are the most representative of Clarke's compositional style as well as the best known and the most often performed of his compositions.

Chapters II-IV begin with a brief discussion of the background and genesis of each of the three compositions, including specific remarks by the composer in his short performance guides (contained in the preface to each work) and in correspondence with the author. Each chapter gives special attention to the extended techniques in the composition examined. Further discussion includes aspects of the formal structure, unifying motives, and other prominent features of each piece. It is hoped that the information provided will be of help to the performer in clarifying the structure and style of each work, and in understanding the notation of each extended technique incorporated. The concluding chapter provides context for Clarke's compositions and their use of extended techniques within 20th-century flute literature.

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Chapter 1

Introduction

British flutist and composer Ian Clarke is currently recognized as one of the leading flutist/composers of today. In the last ten years, Clarke has contributed greatly to the contemporary flute repertoire. He has received invitations to travel to numerous countries, promoting his music through performances and master classes. Many of his compositions, while heavily influenced by popular music, explore unconventional sounds, using inventive avant-garde flute techniques and notations that are unfamiliar to many flutists.

Since there has been little scholarly research done on Clarke and his music, the present document will be a start, discussing the biographical background of the composer and then focusing on three works that are the most representative of his compositional style. Chapter I consists of a brief biography of the composer, including his major influences and a list of his most significant works for flute. Chapters II-IV provide an analysis to aid in the performance of the following works: *The Great Train Race for solo flute* composed in 1993, *Zoom Tube for solo flute*, composed in 1999, and *Within...For Seven Flutes*, composed in 1999 (all published through IC Music/Just Flutes Edition). It is hoped that the information provided for each piece will be of help to the performer in clarifying the structure and style of each work, and in understanding the notation of each extended technique incorporated.

Biography of Ian Clarke

Ian Clarke was born in 1964 in Broadstairs, a small seaside town in Kent, in the southeastern part of England. His mother taught private piano and cello lessons, while his father, who had played double bass in the National Youth Orchestra of Great Britain during his younger years, maintained a career as a professional chemist. At the age of six, Clarke started playing the recorder, and then began piano lessons at the age of eight. By the age of ten, he became intrigued with the flute—so much so that he embarked on teaching himself how to play the instrument. His first private lessons were from clarinet teachers, which he says is what “laid the foundation for so many bad habits in the beginning”.¹ It was not until age sixteen that Clarke began studying privately with professional flutists Simon Hunt and Averil Williams at the Guildhall School of Music & Drama in London.

During Clarke’s childhood years, he listened predominantly to classical music; however, with his introduction to rock groups such as Pink Floyd and his friends taking an interest in the guitar, Clarke became fascinated with listening to and performing rock music. In an interview, Clarke stated that it was at this point in his life that he immersed himself in music; first in improvising and later composing for his newly founded rock band, which he formed with his friends. Clarke stated the following about playing in the rock band, “Being creative with my mates started to push me outside the normal classical track. It was through this experience that I discovered what a blues scale was.”²

¹ Jessica Dunnivant, “Composer and Flutist Ian Clarke,” *Flute Talk*, Vol. 28 No.7 (March 2009): 6-8.

² Ian Clarke, Personal interview, 23 March 2007.

After Clarke's first year of college at The London School of Economics and Political Science, where he was working on a degree in mathematics, he decided to take the next year off and spend time polishing his flute playing skills. During this year, Clarke remained in London and studied the flute part-time through the Guildhall School of Music & Drama. He earned an income by teaching private lessons and playing in his rock band. Despite his passion for music, Clarke returned to school the following year, transferring to the Imperial College in London, and ultimately graduating with honors with a degree in mathematics. While studying mathematics, he remained active with flute playing by studying privately with Guildhall's Williams and Hunt, as well as flutist Kate Lukas. He won an auditioned spot in the Imperial College orchestra and continued playing in his rock band. It was at this point in his playing that he began to explore the technical and expressive possibilities of the flute.³

After graduating from the Imperial College in 1986, Clarke continued performing with his band. It was in 1986 that the group was offered the opportunity to record an album. This breakthrough instrumental album, titled *Environmental Images*, was recorded in 1987 for a music library company; it consisted primarily of new-age music that utilized predominantly flute sounds and quasi-structured improvisation.⁴ During the recording sessions, the producers continually requested that Clarke experiment with creating a variety of non-traditional sounds with the flute. Clarke began concentrating on the sounds that the members of his band were producing on their guitars and synthesizers, both instruments that were capable of pitch bending, and then attempted to imitate those sounds. In this experimentation, he discovered a number of new, interesting timbres

³ Ian Clarke, Personal interview, 23 March 2007.

⁴ Ian Clarke, "Re: Questions," Email to author, 12 July 2009.

capable of being produced by the flute. In the end, despite having the opportunity to record an album, the group soon learned that succeeding in the recording industry was far more difficult than anticipated. In 1992, the group evolved into what is now called Diva Music, a partnership between musicians Clarke and Simon Painter. Presently, Clarke and Painter remain active with Diva Music, writing and producing music for film and television.

While Clarke has had extensive professional training but no formal academic musical training, his success as a flutist helped him earn a position in 2000 at the Guildhall School of Music & Drama, where he serves as a professor of flute. Since then, he has received invitations to numerous countries to give master classes and perform his music. He has performed at conventions of the British Flute Society, The National Flute Association Convention in the United States, and the Hungarian National Flute Event.⁵

In 2005, Clarke released his first solo album, titled *Within...*, containing twelve works that the artist composed for flute. By 2006, Flute World, a prominent purveyor of music for flutists, rated the album among their top-selling flute CDs. The music found on this album is representative of Clarke's compositional style, which he says has been primarily influenced by European pop and rock culture. The list of musicians and composers he has looked to for inspiration include American jazz vocalist Bobby McFerrin, German composer Karlheinz Stockhausen, American avant-garde flutist Robert Dick, and British rock flutist Ian Anderson of the rock band Jethro Tull.⁶ Table 1 contains a list of Clarke's compositional output to date.

⁵ Ian Clarke, "Flutist and Composer," Web, 30 May 2010. <www.ianclarke.net>

⁶ Ian Clarke, Personal interview, 23 March 2007.

Clarke's music is acknowledged as new and interesting repertoire for the flute, incorporating an extensive use of avant-garde techniques as well as traditional classical structures that contain beautiful, lyrical melodies. His use of extended flute techniques includes multiphonics, singing and playing, residual breathy tone, note-bending, timbral trills, and flutter tonguing. These will be discussed in subsequent chapters.

Table 1:
A List of Flute Compositions by Ian Clarke through 2010⁷

Flute and Piano:

Sunstreams, 1986
Sunday Morning, 1987
Orange Dawn, 1992
Spiral Lament, 1994
Hypnosis, 1994
The Mad Hatter, 1994
Spiral Lament, 2003
Touching the Ether, 2006
Hatching Aliens, 2009

Solo Flute:

The Great Train Race, 1993
Zoom Tube, 1999

Multiple Flutes:

Within... for seven flutes, 1999-2003
'Maya' for two flutes and piano, 2000
Walk Like This for four flutes, 2002
Midnight Creep for flute trio, 2009
Zig Zag Zoo for flute choir, 2009

Flute and Electronics:

TRKs, Ian Clarke and Simon Painter (flute and CD backing), 2001
Tuberama, 2008
Within... for solo flute and CD backing, 2008

* All of these pieces are published through IC Music/Just Flutes Edition.

⁷ Ian Clarke, "Flutist and Composer," Web. 30 May 2010. <www.ianclarke.net>

Chapter 2

The Great Train Race

Concept

The Great Train Race was written in 1993 as a showpiece for “the flute as you don’t usually hear it.”⁸ This piece was written for flute alone, utilizing such extended techniques as multiphonics, residual breathy tones, and singing and playing. It is approximately four minutes in length and demonstrates how the flute can sound like a stream train racing along the train tracks. The inspiration for this work materialized out of a studio rehearsal with Clarke’s rock band, when the producer told him that he was playing “too pretty.”⁹ The producer said that he wanted to hear sounds that were unique and rock-inspired. After some improvisation, Clarke realized that the flute sounded somewhat like a steam train when multiphonics and note bending were combined in a specific way.

According to Clarke’s preface to the score, there are two versions of this piece: one written for a B-foot joint and the other for a C-foot joint. The reason behind this is that the original composition was intended for a B-foot flute; however, in order to make the piece more accessible to all flute players, Clarke wrote a second version specifically for flutists with C-foot instruments. Both versions are almost identical, only differing in the first two pages and in the codetta on the very last page, right before the last multiphonic. In the B-foot version, the first notes of the piece is a B₃, while in the C-foot version the first note starts on D₄.¹⁰

⁸ Ian Clarke, *The Great Train Race* (Surrey, England: Just Flutes, 2001).

⁹ Ian Clarke, Personal interview, 23 March 2007.

¹⁰ Ian Clarke, *The Great Train Race* (Surrey, England: Just Flutes, 2001).

Formal Analysis

Table 2: Formal Structure, *The Great Train Race*, B-foot Version

Sections	Introduction	A	B	A'	C	A''	Codetta
Bars	1-16	17-29	31-57	62-73	76-88	89-101	102-104
Key Areas	B major	B minor D minor	A major Bb major	G minor D minor	G minor C major	G minor D minor	B minor

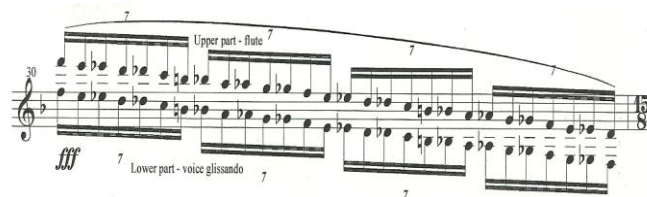
With reference to traditional formal structure, Clarke has sectionalized this piece in a simple design that can be viewed in classical terms as a quasi-rondo form (see Table 2). A standard Classical rondo most often has five distinct sections, with the main theme stated three different times as here. Each return of the main theme is firmly stated in the same key and separated by contrasting episodes in a related key. In contemporary music, the idea of the rondo still exists, but the form may be altered slightly. The musical structure of *The Great Train Race* demonstrates such an altered approach to a standard, Classical rondo form. The overall musical structure of this work is as follows: introduction, ABACA, followed by a short codetta based on the introduction.

The image shows a musical score for the introduction of 'The Great Train Race'. It is written for Flute in G major (one sharp) and common time (C). The tempo is marked 'Presto' with a quarter note equal to 184 beats. The score begins with a series of sixteenth notes, some marked with 'R' for residual/breathy tone. The first staff is marked 'ppp' (pianissimo). The second staff continues the melodic line with a 'poco a poco cresc.' (poco a poco crescendo) marking. A legend indicates that 'R' stands for 'Residual/breathy tone notated by open slashed note-head'. A reference to performance notes is also included.

Example 1: *The Great Train Race*, mm. 1–4, introduction.

The introduction states the tonic key of B major before the first statement of the A theme. The A theme begins in bar 17, briefly in the key of B minor with a sudden abrupt shift in bar 24 to the key of D minor. With the traditional, Classical use of rondo form, the A theme is typically restated in tonic. However, that is not the case in this piece,

which sets it apart from the standard tonal plan of the rondo. As the initial A theme contains two different keys, Clarke manipulates the standard tradition further by stating each return of the A theme in the key of G minor. Bar 30 marks a transition from the A section into the B section. This transition consists of a chromatic scale starting on F₆ descending downward to D₄ (see Example 2).



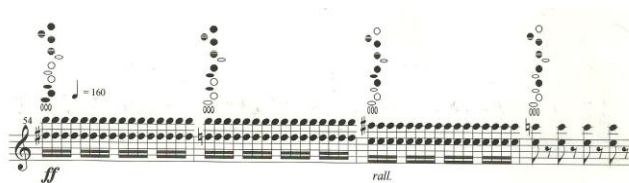
Example 2: *The Great Train Race*, m. 30, transition.

The B section begins firmly in the key of A major and employs new material that incorporates multiphonics. Clarke establishes a new theme by alternating between multiphonics on the tonic chord in bar 31 and the Neapolitan sixth chord in bar 32 (see Example 3).



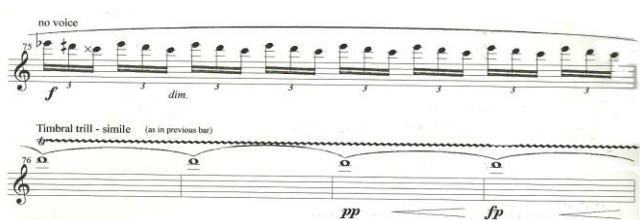
Example 3: *The Great Train Race*, mm. 31–33, B section.

In bar 38, the alternation between these two chords, with multiphonics, continues to build intensity through an accelerando, which results in a climatic moment in bar 54 (see Example 4), where Clarke incorporates a succession of these multiphonics. This sequence ends the B section in bar 57.



Example 4: *The Great Train Race*, mm. 54-57, end of B section.

Section C begins in bar 74, with a new idea that Clarke calls timbral trills (Example 5). This technique will be discussed in more detail in the performance practice section later in this chapter. This section starts in the key of G minor and modulates to the key of C major with a trill. This trill is accomplished by playing a succession of three notes, beginning with E-flat, then D quarter-sharp, followed by C double-sharp. The trill then turns into a more rhythmic sequence consisting of a 5-note sixteenth pattern that outlines different pitched quartertones between the notes C and D. This pattern ends with a *molto rallantando* into a sustained C (see Example 5).



Example 5: *The Great Train Race*, mm. 75-79, section C.

After the final return of the A theme, the piece concludes with a codetta in the key of B minor, containing a much shorter repetition of the introduction. In a personal interview Clarke comment on the unusual number of modulations in such a short piece: “Life is like a river, it just keeps going somewhere new. I feel that way with keys; moving to a new key makes it something new and more gratifying.”¹¹

¹¹ Ian Clarke, Personal interview, 23 March 2007.

Performance Guide

Table 3: Use of Extended Techniques in *The Great Train Race*

Introduction	A	Transition	B	Trans.	A'	Trans.	C	A''	Codetta
1-16	17-29	30	31-57	58-61	62-73	74-75	76-88	89-100	102-104
Residual Breathy Tones Explosive Harmonics	Flutter Tonguing	Singing/ Playing	Multi- phonics	Multiphonics Notebending Quartertones	Singing/ Playing	Microtonal Trills Quartertones	Microtonal Trills Quartertones	Singing/ Playing	Residual Breathing Tones Multiphonics

The Great Train Race is meant to be a short, entertaining piece lasting approximately 4 minutes in length. The biggest challenge for the performer is understanding Clarke's notation and producing clear, effective extended techniques in the service of a simple, fun piece.

The *Great Train Race* was conceived and written as a showcase for the flute 'as you don't usually hear it'! It should be both exhilarating and fun for performer and audience alike.¹²

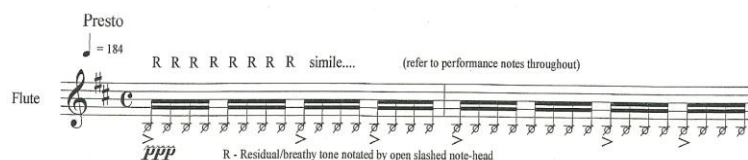
In the preface to the score, Clarke provides a short explanation of each extended technique employed and briefly describes how to accomplish it. The remainder of this chapter will discuss these techniques and how to produce them effectively.

The introduction, comprising of bars 1–16, is rhythmically simple, consisting of a straight sixteenth-note pattern; the unusual notation, however, is one that the performer must study. Clarke notates the sixteenth notes with two different types of extended techniques in mind: residual breathy tone and explosive harmonics. Clarke defines the residual breathy tone as follows:

¹² Ian Clarke, *The Great Train Race* (Surrey, England: Just Flutes, 2001).

The breathy noise of the flute left when a proper tone is purposely not formed. The notation of an open slashed note-head further reinforces the idea that a conventional tone should not be striven for. A 'B' should be fingered throughout the first page ('D' in the C flute version). The technique may be best described as a 'slight letting go' or 'unforming' of the embouchure; pushing the jaw and embouchure forward whilst narrowing the gap between the upper and lower teeth will also help.¹³

The purpose of this sound is to create an image of a steam train beginning its race along the tracks. The notation for this consists of typical-looking sixteenth notes, with the exception of the use of open, slashed note heads, which indicate that the player should produce the residual breathy tone, as Clarke stated above. The open note head is written to reinforce the idea that a traditional tone should not be produced. Clarke also places an R above the notes in the first bar to further stress the technique (see example 6 below).



Example 6: *The Great Train Race*, mm. 1–2, demonstrates residual breathy tone.

The notation used for residual breathy tones in this piece follows standard notation used by Kurt Stone in his book *Music Notation in the Twentieth Century*. Stone provides examples of what has become standard notation for extended techniques that incorporate nonstandard types of pitched sounds through the instrument. He provides a chart that illustrates the notation of different shaped note heads. This chart helps the performer know what type of sound is to be produced with the written note head. He

¹³ Ian Clarke, *The Great Train Race* (Surrey, England: Just Flutes, 2001).

illustrates a “round note-head pierced by stems” that symbolizes when the performer should provide “sounds of air blown through an instrument.”¹⁴

In order for the performer to produce this type of sound with the flute, the performer must bring the jaw up and forward so the bottom teeth almost touch the front of the top teeth. There may be an inclination to loosen the embouchure to create the effect, which will allow too much air out of the mouth. This will become counterproductive if the performer attempts to play the entire introduction in one breath, as the composer suggests in his short performance notes. Clarke recommends that, “If this proves a problem then a contraction of the musical idea is more preferable than a breath.”¹⁵ In an in-person interview with Clarke, the composer mentioned that after working with students on this piece, he realized that not everyone can sustain the musical idea effectively in one breath. He has decided it is satisfactory to take one breath, preferably after the last explosive harmonic in bar 10.¹⁶

Within the framework of the constant sixteenth-note pattern utilizing the residual breathy tone, Clarke has implemented what he calls explosive harmonics. He defines these as “layered spreads of harmonics interspersed in the opening section building intensity and reinforcing the rhythm. They are a result of short, increasingly energetic accents produced by very short huffs of air. At their peak they should explode from the bed of rhythmic residual tones.”¹⁷ In order to produce these sounds, the performer must move the embouchure slightly forward while bringing the jaw down to a more traditionally formed embouchure, and then attack each harmonic with a breath kick from

¹⁴ Kurt Stone, *Music Notation in the Twentieth Century* (New York and London: W.W. Norton & Company, 1980): 31.

¹⁵ Ian Clarke, *The Great Train Race* (Surrey, England: Just Flutes, 2001).

¹⁶ Ian Clarke, Personal interview, 23 March 2007.

¹⁷ Ian Clarke, *The Great Train Race* (Surrey, England: Just Flutes, 2001).

the diaphragm. The air speed must be quick and blown more into the flute rather than across it, in order to create all of the harmonics. The harmonics begin to appear in bar 5, where they appear one octave above the written B, and continue to get higher in pitch as the piece's intensity increases. After the climactic moment of the introduction in bar 10, the explosive harmonics begin to diminish and fade away.



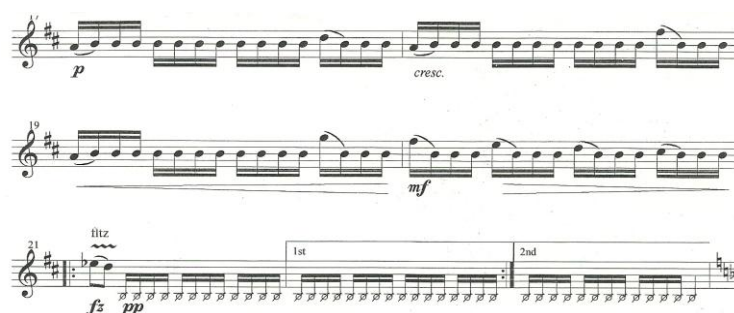
Example 7: *The Great Train Race*, mm. 5–11, explosive harmonics.

In order to make the musical idea more effective and better mimic the sounds of a steam train, Clarke indicates a brisk tempo, “quarter note equals 184,” as well as heavy accents on beats one, three, and four. To accomplish this effect along with the residual breathy tones and explosive harmonics, the performer must make sure that the double-tonguing of the sixteenth notes is produced with an extremely pointed and consistent motion of the tongue that is supported with controlled air.

The final step in preparing this introduction is for the performer to give special attention to the indicated dynamics. These dynamics are the last crucial aspect of making the opening effectively sound like a steam train. The first bar is marked *pianississimo* (*ppp*), and is continued at this dynamic level until the first explosive harmonic in bar 6, at which point the extreme marking indicates a *sforzando* (*sf*). From this point, Clarke’s

intention is for the dynamics to increase in volume to further accentuate the intensity of the explosive harmonics. After the climatic moment in bar 10, the performer must return to *molto diminuendo* until the end of the introduction. Clarke uses the terms *perdendosi* and *niente* in bars 15-16 to indicate that this musical gesture fades away to nothing.

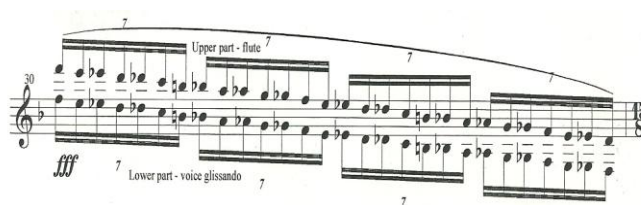
The first time through the repeated A theme in bars 17-21, Clarke employs traditional notation, consisting of a basic straight sixteenth note pattern. Consistency should be maintained in the rhythmic drive of this pattern. The performer needs to make sure that beats one and four are held out longer, which will allow the melody notes not to get lost in the repetition of the sixteenth note, B. In addition, the performer should make sure that breaths are only taken after the flutter tongue on beat one in bar 21 on both repeats. The next breath should be taken on the downbeat of bar 24 and then sustained through the end of bar 29.



Example 8: *The Great Train Race*, mm. 17–23, A section.

The short transition into the B section consists of a descending chromatic scale starting on F₆ using the extended technique of singing and playing at the same time (see example 9). Clarke does not demonstrate this effect through the use of different notation; he simply provides a descending chromatic scale written in octaves, indicating that the

upper part be played by the flute and the lower part executed by the voice. Generally, when singing and playing, the voice accompanies the flute one octave lower than what is notated. In this score, however, Clarke suggests that the performer should try to have the voice descend in a glissando, rather than sing every pitch individually. The gesture is to be played quite fast, and therefore it is virtually impossible for the voice to sing the exact pitches that are notated.



Example 9: *The Great Train Race*, m. 30, chromatic scale.

The B theme is meant to suggest a different aspect of a steam train's sound; it is achieved through the use of multiphonics (more than one simultaneous pitch) alternating between the chords A major and B-flat major. In bar 31, the first note, A, is played with a traditional pitched sound and the C-sharp and E are played together through the use of an alternate fingering (pictured in example 10) required to play both pitches at the same time. Then, in bar 32, he changes to the Neapolitan sixth, outlining a B-flat major triad. Again, the same concept applies, where the B-flat is played traditionally and the D and F are played simultaneously. The fingerings Clarke provides for these multiphonics are taken from Robert Dick's *The Other Flute*,¹⁸ and are the easiest to produce on the instrument, since they are not sustained.

¹⁸ Robert Dick, *The Other Flute: A Performance Manual of Contemporary Techniques* (St. Louis: Multiple Breath Music Co., 1989): 97–98.



Example 10: *The Great Train Race*, mm. 31–33, use of multiphonics.

The B theme contains multiphonics that require a significant amount of control and stamina from the performer. The preparation for multiphonics should be approached carefully. It is extremely easy for the performer to end up only playing one of the two notes, usually only the higher note. The performer might practice the multiphonic by playing each of the two notes separately. This will help the performer hear each note, as well as make it easier to put the two notes together and listen for both to appear.

In bar 38, the tempo slows down drastically and requires a *poco a poco accelerando* up to bar 54.



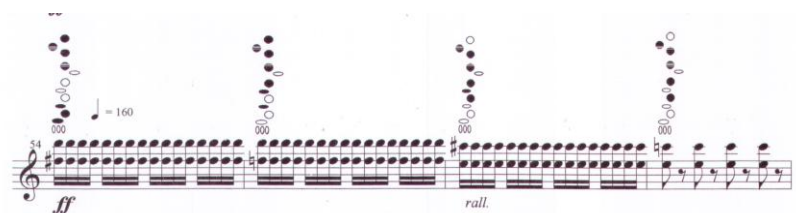
Example 11: *The Great Train Race*, mm. 38–41, multiphonics.

It is relatively easy for the performer to become carried away and accelerate too soon and too fast. Care must be taken in the pacing, to portray the accelerating steam engine. In bar 46, Clarke flips the two notes involved in the multiphonic, in which the E is the lower of the two and the C-sharp is the higher (see Example 12 below); likewise, in bar 50 when

the B-flat major triad is inverted. These multiphonics are more difficult to produce and require greater care to ensure that both notes speak clearly.



Example 12: *The Great Train Race*, mm. 46–49, multiphonics.



Example 13: *The Great Train Race*, mm. 54–57, multiphonics.

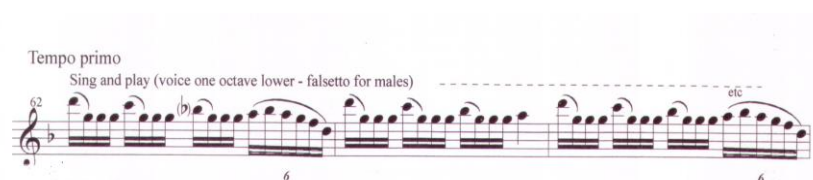
At the end of the B section, after an important, brief silence, the audience finally gets to hear the well-recognized sound of a steam-train whistle. To achieve this, Clarke integrates the use of both multiphonics and note-bending techniques. He suggests that there should be “lip and head movement covering the embouchure hole” and “the octave E should be maintained.”¹⁹ This will work more successfully if the first bend is much quicker than the second (see Example 14).



Example 14: *The Great Train Race*, mm. 58–61, steam whistle effect.

¹⁹ Ian Clarke, *The Great Train Race* (Surrey, England: Just Flutes, 2001).

The return of the A theme brings back the musical idea heard in the first statement of the theme; however, Clarke wants the performer to use the extended technique of singing and playing. Clarke notates this technique with standard rhythmic notation, only specifying that the singing and playing should be done in octaves, the voice one octave lower than the pitches written (Example 15). This may be difficult to accomplish if this technique is new to the performer. Thus, the best way to approach it is to start by learning the melody and achieving the ability to sing it without the flute. Next, the performer should add the flute tone to the voice, letting the voice sound only as a hum.



Example 15: *The Great Train Race*, mm. 62–64, return of the A section.

According to Clarke, although this piece is not intended to tell a specific story, section C may best be described as serving the purpose of a cliffhanger:

That whilst the title and composition emerged together, there was not an explicit narrative that led the form of the piece. This section is the point in the piece when you begin to ask yourself...will the train make it over the pass?...it's a hold your breath moment....it slows, slows, slows, hangs, the train disappears from view for a moment, then bursts out at a top speed on the other side.²⁰

Section C begins in bar 74, where Clarke employs a technique that he calls a timbral trill, which he defines as “expressive decorations that are produced by trilling between two slightly different pitches.”²¹ According to Kurt Stone in his book *Music*

²⁰ Ian Clarke, “Re: Questions about *GTR* and *Within*,” Email to author, 26 February 2010.

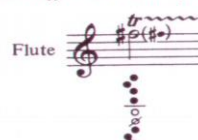
²¹ Ian Clarke, *Orange Dawn* (Surrey, England: Just Flutes, 2005): Performance Notes.

Notation in the Twentieth Century, timbral trills are defined as “trilling with the same pitch”²² (see Example 16). These trills are intended to give two different tonal colors to the same pitch. What Clarke has notated, as a timbral trill, is comprised of three written pitches that total a half step; E-flat, D quarter-sharp, and C-double sharp. Therefore, the variation of pitch within the trill is too large of a difference to fit the strict definition of a timbral trill and should rather be seen as a microtonal trill. This is clarified more with an example given by Stone in his discussion on microtonal trills (see Example 17).

B. Timbral Trill

Timbral trill (unison trill), or trilling with the same pitch, is notated as follows:

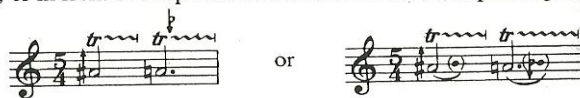
Two different normal fingerings



Example 16: Stone, *Music Notation in the Twentieth Century*, timbral trill, pg. 196.

C. Microtonal Trills

A microtonal accidental must be placed in front of the main note, or above the *r* of the trill sign, or in front of the parenthetical trill note-head, depending on the desired pitches:

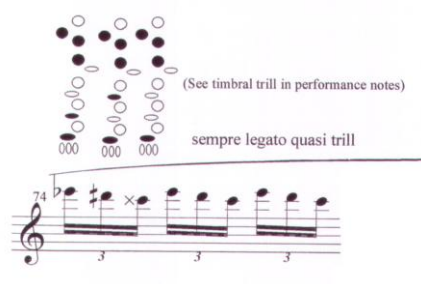


Example 17: Stone, *Music Notation in the Twentieth Century*, microtonal trill, pg. 76.

If Clarke did intend for this to signify a timbral trill, he would have only written one note, as in bar 76 (Example 20), with a specific fingering to alter the color in pitch. However, in bar 74 (see Example 18), he notates the three distinct pitches previously

²² Kurt Stone, *Music Notation in the Twentieth Century* (New York and London: W.W. Norton & Company, 1980): 196.

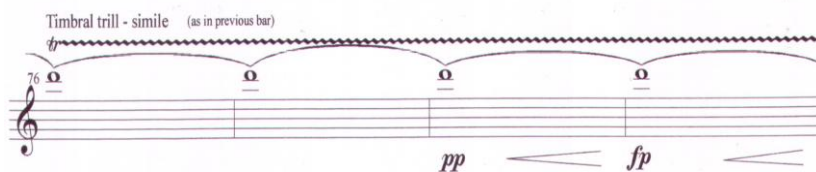
mentioned and states that this is where the timbral trill begins. Bar 76 is primarily a shorthand notation of one pitch for the more complex notation written in bar 74 in the rhythmic pattern of straight sixteenth-note triplets. Clarke gives specific fingerings that are recommended to achieve each of the pitches. These fingerings are taken from Robert Dick's *Tone Development Through Extended Techniques*.²³



Example 18: *The Great Train Race*, m. 74, suggested trill fingerings.



Example 19: *The Great Train Race*, m. 75, complex notation of trill.



Example 20: *The Great Train Race*, mm. 76-79, Clarke's timbral trill.

²³ Robert Dick, *Tone Development Through Extended Techniques* (St. Louis: Multiple Breath Music Co., 1986): 34.

In order to execute this trill, the performer should make sure that it is not played too fast, as there are three separate notes that need to be heard and a rhythmic pattern that is included to create the musical effect. By bar 76, Clarke notates a sustained D with a standard trill sign over it, stating that the previous fingerings should be applied. The performer also needs to give special attention to the dynamics that Clarke has written. The trill is to continue at *forte* from the previous bar; by bar 78, however, the trill should diminish to *pianissimo*. At this point, the performer is to repeat the trill as often as he or she deems necessary, incorporating spontaneous *fortepiano* gestures.

In bar 84, both the pitches and the rhythmic notation change as well as the fingerings needed to play the written pitches, also, these trills should be much faster than the previous one.



Example 21: *The Great Train Race*, m. 84, timbral trills.

As the performer is playing this musical gesture, five distinct pitches need to be heard. Clarke has notated them in groups of five so the performer can clearly distinguish what the composer is suggesting. In order to produce these trills fast enough, the performer needs to develop a clear understanding of the finger pattern. In the first group of five notes, the best way to begin this trill is to start with the traditional fingering, starting on C₆ going to C-sharp; then, while fingering C-sharp, add the first trill key, then move to the second trill key, then go back to normal C-sharp. The second group of five notes is

quite similar in fingering, only the performer must start on the traditional fingering for D₆, move to C-sharp, then apply the same pattern with the trill keys (first then second, as above), and end on C-sharp. Once this pattern is learned, the performer needs to be able to play this gesture as fast as possible. One must remember to practice these trills slowly at first so the regularly pitched sounds of C and D are not overlooked. It is also recommended to observe that in bar 86, the rhythm changes slightly to further develop the effect of the written *ritardando*, ending with a fermata over the final C. The final note should be exaggerated in length, with a crescendo to a *fortissimo*. For a more dramatic effect, the end of the bar is marked with a fermata over a rest with the recommendation *subito niente*, referring to a sudden pause before heading into the final return of the A theme.

Finally, Clarke suggests that this section should incorporate circular breathing; as with the introduction. However, the composer understands that not everyone can circular breathe or even play this gesture in one breathe. He therefore recommends breathing when necessary, as long as the breathing does not interfere with the musical idea.



Example 22: *The Great Train Race*, mm. 86–88, end of Section C.

The final return of the A section is an almost literal restatement of the previous A section. The only difference is that in the transition into the codetta, Clarke notates the final statement up one octave before the last of the timbral trills ahead of the codetta.



Example 23: *The Great Train Race*, mm. 100–101, transition to codetta.

The codetta (example 24) is a short, two-measure repetition of the introduction that requires energetic reinforcement to help lead to the final note, which is a multiphonic illustrating the final call of a steam-train whistle. This requires drive and energy until the very end of the piece.



Example 24: *The Great Train Race*, mm. 102–104, codetta.

Chapter 3

Zoom Tube

Concept

Zoom Tube, originally titled “*Groove Tube*” was composed in 1999 and dedicated to his wife, Carrie Clarke.²⁴ This work is roughly four minutes in length and represents a rhythm and blues piece for solo flute utilizing unconventional avant-garde techniques employed by Clarke. With much acclaimed success from his first solo flute work, *The Great Train Race*, Clarke recognized that if he composed another piece for flute alone it would have to be on a completely new level in order for it to get the same reaction.²⁵ As a result, Clarke composed a piece that demonstrates how the flutist can "groove," and revels in compelling percussive sounds possible on the flute. In the preface to the score Clarke comments on the genesis of *Zoom Tube*:

New compositions are necessarily, consciously or sub-consciously, influenced by other work. In the case of *Zoom Tube* there are many inspirations: rhythm & blues, Bobby McFerrin, Stockhausen, Robert Dick, Ian Anderson & South American flute playing spring to mind fairly immediately but I'm sure there's more if one wanted to delve further. Beyond this, I had an impression of what I wanted to achieve and, since I am a composer & flautist, naturally enough its birth was largely through experimentation and improvisation on the instrument. The extended techniques and hence palette of colours was very much a means to an end rather than just an end in itself. Amongst other things I wanted the flute to groove, much as a rhythm guitarist might, so chords (multiphonics) and damping techniques were necessary. When the human voice is used to groove an array of percussive vocalizations are employed to imitate a drum kit or used as interjections to further rhythmic suggestion. Therefore note bending, an array of articulations and the voice were going to feature.²⁶

²⁴ Ian Clarke, *Zoom Tube* (Surrey, England: Just Flutes, 1999).

²⁵ Ian Clarke, Personal interview, 23 March 2007.

²⁶ Ian Clarke, *Zoom Tube* (Surrey, England: Just Flutes, 1999).

Zoom Tube is a unique composition that requires patience to learn, as it contains notational intricacies that are at first not easy to decipher. It is the conviction and dedication that the performer must give to the piece that will result in a successful performance. Wallace Berry provides a motivational statement for the performer in his book *Musical Structure and Performance* that states: “The ideal musical performance, at once moving and enlightening, mirrors the noblest impulses in human endeavor: that of rational examination, that of powerfully significant abstract imagery, and that of fervent commitment”.²⁷ In his article titled *The Performer’s Point of View*, Leonard Stein states that “New methods of notation have had to be devised by composers in order to define new modes of thought and traditional notation has in some cases had to be amplified by other, often very unusual, symbols, which themselves require further verbal explanation.” He further states, “The performers’ reactions to the music may be seriously inhibited, and may be discouraged from playing it at all. Although he no longer thinks of ‘interpreting’ a work in the willful manner of an older style, he must still convey with some facility of technique and a degree of personal conviction and identification with the work at hand, based, first of all, on a faithful adherence to the directives, as he understands them, of the composer.”²⁸ These statements have been chosen to provide encouragement to the performer as he or she is about to engage in an innovative way of learning a composition that will be exciting for the performer and its audience.

Zoom Tube, with its unusual sounds and techniques, is gaining popularity among flute players in many countries. In 2006, *Zoom Tube* began to reveal its significance as it

²⁷ Wallace Berry, *Musical Structure and Performance* (New Haven and London: Yale University Press, 1989).

²⁸ Leonard Stein, “The Performer’s Point of View,” *Perspectives on Notation and Performance* (New York: W.W. Norton & Company Inc., 1976).

was included in the Peters Edition reference of the *Edexcel GCSE* (General Certificate of Secondary Education) *Anthology of Music* as an example of extended instrumental techniques. It replaced Berio's *Sequenza I for solo flute*, which is the first modern composition to employ the use of a multiphonic.²⁹ *Zoom Tube* is located in the chapter titled "Expressionism, Serialism, Experimental and Electronic Music."³⁰ Also, in that same year, *Zoom Tube* was used as one of the required pieces in the preliminary round of the National Flute Association Young Artist Competition, and was performed by flutist Katherine Kemler in an afternoon concert at the National Flute Association's annual convention held in Pittsburgh.

²⁹ Robert Dick, *The Other Flute: A Performance Manual of Contemporary Techniques*, 2d ed. (St. Louis: Multiple Breath Music, 1989), pg. 83, Berio: *Sequenza I* for solo flute.

³⁰ Julia Winterson, eds., *Edexcel GCSE Anthology of Music* (London: Pearson Company/Peters Edition, 2007).

Formal Analysis

Zoom Tube is cast in ternary form with both an introduction and coda. Table 4, below, outlines its basic formal structure.

Table 4: Formal Structure, *Zoom Tube*

Sections	Introduction	A	B	A'	Coda
Bars	1-2 (approximately 20 seconds in length)	3-34	35-78	79-86	87-96
Themes	Not applicable	Theme I: mm. 3-21 Transition: m. 22 Theme II: mm. 23-34	Development of themes I and II in the A section	Theme I: mm. 79-86 No return of theme II	Development of theme I from A section
Tonal Areas	Centered on D	E Pentatonic minor E Blues Scale A Major F Melodic minor D minor Centered on F	D minor F-sharp Blues quarter tone scale F minor Chromatic quarter- tone scales	E Pentatonic minor E Blues Scale A Major	B Major E minor
Division of the Beat	Not applicable	Simple duple Simple quadruple Compound triple Compound triple Simple triple	Simple quadruple Compound duple Simple duple	Simple duple Compound triple	Simple triple Simple duple

The introduction is short, consisting of only two notated bars, and lasts for approximately 20 seconds. The A section begins in bar 3 (Example 25) and introduces the main theme, which has a "blues" flavor in E pentatonic minor. In bar 8, the theme is altered rhythmically and is transposed to A, confirmed by the prominent A major chord at the end of bar 8. The B-flat in bar 9 indicates a shift away from E pentatonic minor and a move towards harmonies found in an E blues scale. In bars 13-17, there is an exact repetition of the main theme, only notated one octave higher.

Flute

Progressively uncover holes from D key to A key

Progressively open rings from D ring to G ring

residual - breathy tone approx. 20sec

pp *mf* *ff* *niente*

Conventional note heads - normal tone
Slashed note heads - breathy residual tone
No note head - shadow note with dry 'ke' articulation

p *ke* *du* *ke*

Example 25: *Zoom Tube*, mm. 1-4, introduction and first theme.

There are two main themes in the A section. The first theme is much longer than the second, and includes a transition based upon a fragment of an F melodic minor scale that includes quartertones. This leads into theme II in the key of d minor (see Example 26).

ke *ke* *ke* *ke*

no voice

Example 26: *Zoom Tube*, m. 22, transition.

While the first theme is rhythmically straightforward in a simple duple meter incorporating basic eighth and sixteenth note patterns, Clarke changes the rhythm of the second theme (see Example 27), employing an alternation between compound triple and simple triple meters.

mf

sing bracketed sections

Example 27: *Zoom Tube*, mm. 23-24, second theme.

The A section concludes in the key of F (bb. 31-33), with a single-note gesture on tonic. Clarke notates that the flutist is to sustain the high F while introducing the voice singing middle F and then descending chromatically to low F, and back up to middle F. This is followed with a bar of silence.

The B section takes the flute in a new direction, now centered on D, while focusing on rhythmic intensity and employing a unique combination of extended techniques. The section begins in bar 35, where Clarke incorporates four short rhythmic phrases of two measures, each separated by a measure of silence. Each phrase consists of a repetitive, motivic idea that combines both residual breathy tones and spoken syllables.

In Bar 47 (Example 28), Clarke notates a continuous rhythmic gesture using chromatic quartertones that becomes transitional material into bar 51.

47 *light* *p* *dim.* *progressively uncover holes* *simile*

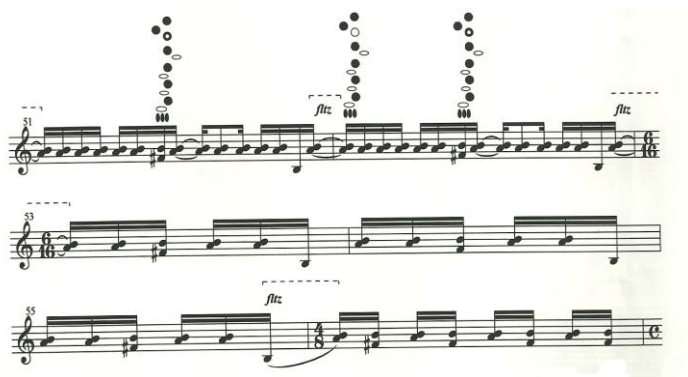
Cher ke ke ke che ke ke the ker ke che ke che ke Sha ke che ke che ke da ke che ke che ke
 Sha ke che ke che ke ke che cher ke che ke che ke Sha ke che ke che ke ka ka ke che ke che ke

Use resonant thpe, du & da. Pick and mix in given styles for this section.

49 *mp* *dim.* *simile* *mf* *normal tone*

Example 28: *Zoom Tube*, mm. 47-50, transition.

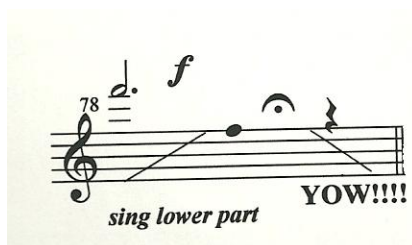
In bars 51-56, there is a brief return of a slightly altered second theme from the A section that also integrates rhythmic motives seen in bar 47 (Example 29).



Example 29: *Zoom Tube*, mm. 51-56, return of second theme.

Bar 58 contains an F-sharp blues quartertone scale, which becomes the harmonic basis for measures 59-74.³¹ It is at this point in the piece where Clarke assimilates all ideas and techniques that have been heard thus far and shows how the flute can "groove."

In bar 74, Clarke begins to modulate to F minor, incorporating an ascending chromatic quartertone scale in bars 76-77. Bar 78 (Example 30) is the end of the B section and is marked by the same technique that ended the A section, only this time the technique is opposite in pitch direction and the performer is to end the note with a loud, robust vocal scream using the word "yow."



Example 30: *Zoom Tube*, m. 78, end of B section.

³¹ Ian Clarke, Personal interview, 23 March 2007.

The return of the A section begins in bar 79 in the key of E pentatonic minor; however, it is altered slightly from its initial presentation. Clarke employs more extended techniques in this section and brings back only the first theme.

On beat three of bar 86, Clarke uses a fragment of a descending chromatic quartertone scale that serves as a transition into the coda; a technique employed in earlier sections that also functioned as a transition.³² The coda draws upon material found in both the A and B sections, and contains extended techniques that have not been heard thus far in the piece. Harmonically, Clarke introduces new key areas in the coda that contain a parallel relationship to key areas already heard. In bar 87, Clarke establishes the key of B major, which in retrospect is heard as the dominant of the final tonic E, established with a final descending E Dorian scale. This final stroke provides tonal closure, bringing the listener back to the first well-established tonic of the opening primary theme.

³² Ian Clarke, Personal interview, 23 March 2007.

Performance Guide

It is imperative that before attempting to learn *Zoom Tube*, the performer read the notes in the preface of the score to help understand how to perform this piece:

It is possible to approach this piece without too much experience with extended techniques but clearly it is a different proposition to learning a more conventional composition and some background work would be advisable; for example practice of singing & playing which will be unfamiliar to many players. Expect to take a little more time to get used to the notation and techniques – particularly the various fingerings employed for multiphonics and quartertones. Bars 76 & 77 may be particularly challenging! Even though most things are easier than they look, this is unlikely to be a piece to learn in days! Having said that, I hope that it is fun and rewarding to learn and that you will enjoy the unraveling process!³³

Many of the notations and techniques are quite new to most performers. It will take time and patience to understand what the composer wants from his notation. Table 5 lists all of the extended techniques used in *Zoom Tube*.

Table 5: Use Extended Techniques in *Zoom Tube*

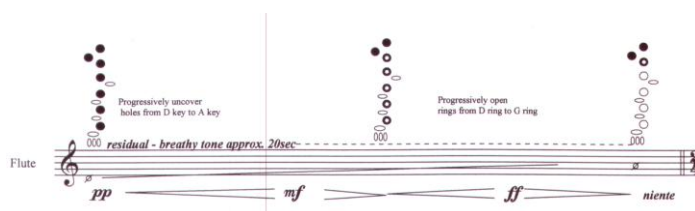
Introduction	A	B	A	Coda
Residual Breathy Tone Note Bending	Multiphonics Note Bending Articulations - Conventional - Slashed note heads - Shadow note heads Residual Breathy Tone Singing and Playing Quarter Tones	Multiphonics Note Bending Articulations - Conventional - Slashed note heads - Shadow note heads Residual Breathy Tone Singing and Playing Quarter Tones - Quarter Tone Blues Scale - Quarter Tone Chromatic Scale Flutter Tonguing Vocal Scream	Multiphonics Note Bending Articulations - Conventional - Slashed note heads - Shadow note heads Residual Breathy Tone Singing and Playing Quarter Tones	Multiphonics Articulations - Conventional - Slashed note heads Residual Breathy Tone Singing and Playing Quarter Tones Explosive High F#s Jet Whistle Glissando

³³ Ian Clarke, *Zoom Tube* (Surrey, England: Just Flutes, 1999).

It is apparent that the opening of *Zoom Tube* shares similarities to that of the opening of *The Great Train Race*, where the residual breathy tone is also incorporated. In his book *The Other Flute*, Robert Dick states the following about residual tones:

Residual tones are noise-like resonances of the tube of the flute, usually consisting of a very weak fundamental and a few higher partials, and are often heard with natural harmonics. They are very easily produced, and can be played alone or, at low dynamic levels with whisper tones.³⁴

This statement applies to what Clarke has notated in the opening of *Zoom Tube*. The notation suggests the use of a residual breathy tone, and indicates that the performer begin on the fundamental note D and then start progressively sliding the fingers from the holes on the flute from the D to A. As the performer slides the fingers across the flute and increases air to intensify the dynamics, the natural harmonics will appear. For the residual breathy tone, it might be helpful to bring the jaw up and more forward, so the bottom teeth almost touch in front of the top teeth in order to accomplish this technique. Clarke recommends that this be in one breath for the musical effect to be exciting.

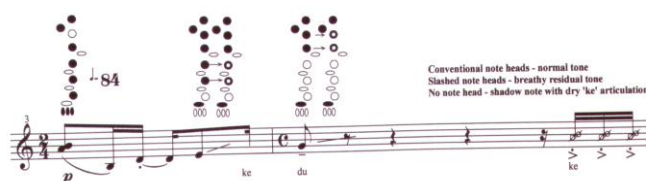


Example 31: *Zoom Tube*, m. 1, introduction.

The first two measures of the A section demonstrate three different types of extended techniques. The melody begins with the use of a multiphonic, followed by note bending that leads into a unique technique not typically seen in avant-garde flute

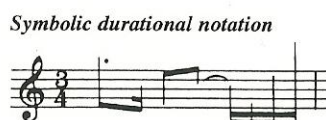
³⁴ Robert Dick, *The Other Flute: A Performance Manual of Contemporary Techniques*, 2d ed. (St. Louis: Multiple Breath Music, 1989).

repertoire. At the end of beat two, in bar three (see Example 32), Clarke has notated a rhythmic value but has left off the note head.



Example 32: Zoom Tube, mm. 3-4, opening of A section.

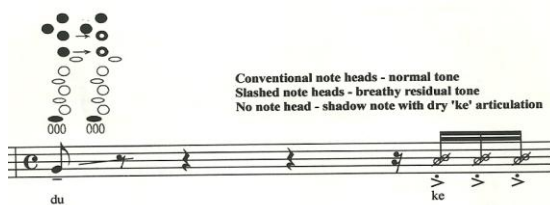
According to Wallace Berry, this type of notation is called symbolic durational notation, which indicates that when a composer is using a traditional five-line staff, stems should be drawn in the appropriate direction to illustrate approximate pitches.³⁵



Example 33: Berry, pg. 66, symbolic durational notation.

Clarke follows this style of notation when writing the different types of note heads used throughout *Zoom Tube*. With the absence of a note head, Clarke indicates this articulation as a shadow note that produces a light, dry sound with a “ke” articulation. In bar 4 (Example 34), the open note head with a slash through it signifies the note to be played with the residual breathy tone technique (as in *The Great Train Race*) using the articulated “ke” syllable.

³⁵ Wallace Berry, *Musical Structure and Performance* (New Haven and London: Yale University Press, 1989) pg 66.



Example 34: *Zoom Tube*, m. 4, use of unconventional notation.

However, it is not just one sounding pitch that needs to be heard with this musical idea. Clarke has written the same multiphonic found at the beginning of bar three on beat one, which requires the same fingering that he suggested to sound the A and B pitches simultaneously, only now with the residual breathy tone technique. In the preface to the score, Clarke indicates that in order to achieve these articulations correctly, the performer should place the embouchure in a looser, open position, as if the mouth is in a normal speech position when speaking the given articulation and allowing for the flute to act as an extra tool.³⁶ These unusual types of articulations are integrated throughout the piece and have been developed with added decoration of multiple syllables as well as an increase in dynamic levels.

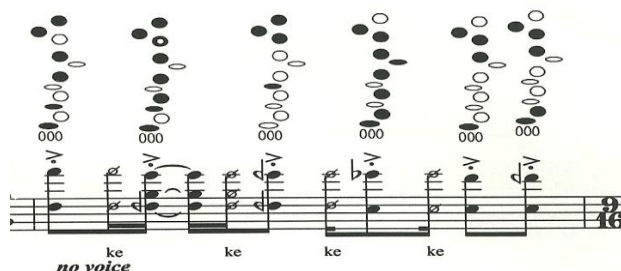
Zoom Tube exploits the combination multiphonics with aspects of singing and playing to great effect. In bar 13, Clarke notates the voice one octave lower to help the performer remember which notes to sing. This technique is required on all notes that have standard solid note heads, including multiphonics.

³⁶ Ian Clarke, *Zoom Tube* (Surrey, England: Just Flutes, 1999).



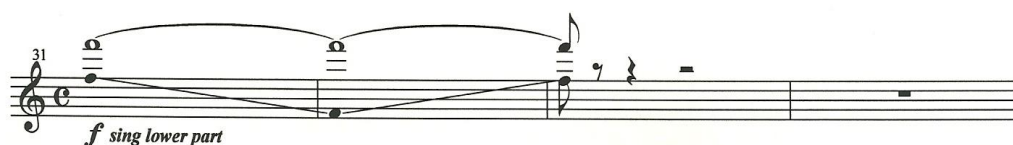
Example 35: *Zoom Tube*, mm. 13-16, singing and playing.

Bar 22 is transitional material that leads into the second theme and utilizes six consecutive multiphonics. Clarke gives the specific fingerings necessary to achieve the pitches notated and intersperses short sixteenth note gestures of residual breathy tones. The performer must execute this measure with precision, making a distinction between the rhythmic groove against the multiphonics and the residual breathy tones incorporating the dry syllable “ke.” It might be helpful to approach this measure by first learning how the exact rhythms are notated, then trying to learn the new fingerings for the multiphonics and where they occur on the beat. Finally, the performer should begin to add the residual breathy tones and “ke” syllable.



Example 36: *Zoom Tube*, m. 22, use of multiphonics, quartertones, and syllables.

Bar 31 (see Example 37 below) signifies the end of the A section and requires the extended technique singing and playing, however in an unusual way. Clarke notates a sustained high F which is to be sounded with the flute, and underneath notates a solid note head F one octave lower with a line descending in the direction of low F and then ascending back to middle F. As the performer is sustaining the high F on the flute, he/she must sing the middle F with his/her voice and glissando down to the low F in a matter of four beats, then ascend back to middle F in four more beats. While singing the descent of the middle F to the low F, the performer must still be able to support the high F by pushing a faster, more pointed air stream down into the flute instead of across so that the high F does not drop in pitch.



Example 37: *Zoom Tube*, mm. 31-34, end of A section.

In bar 35, Clarke has created a distinctive effect that continues to employ the unconventional articulations discussed earlier in the chapter. These musical gestures utilize several techniques at once, which consist of a constant residual breathy tone, more dramatic use of speech-like syllables sounded into the flute, note bending, and quartertones. Clarke has chosen to notate the quartertones by implementing a half-sharp or backwards flat symbol. In a discussion on microtones in his book *Musical Structure and Performance*, Wallace Berry suggests that there are several ways in which to notate quartertones. He states that:

Quartertones are used in different ways. They may be ornamental inflections of a given pitch; part of a quarter tone scale or other set of pitches that includes quarter tones; one of a number of microtonal divisions such as sixth, quarter, and third tones. Because of this diversity, some quarter-tone notations may be more appropriate than others, depending on the musical and notational contexts in which they occur.³⁷

Berry discusses two different types of notational symbols to represent quartertones. The first, arrowed accidentals, demonstrates the use of arrows attached to each accidental that identifies whether the pitch is intended to be a quartertone higher or lower. Berry continues to mention that, although through the years there have been numerous ways invented to notate quartertone accidentals, none of them contain identical alterations for both the sharps and flats like that of the symbols used for arrowed accidentals.³⁸ The following example shows the correct notational symbol for arrowed accidentals.



Example 38: Berry, Quartertone, Notation for Arrowed Accidentals.

The second notational symbol for quartertones (Example 39) that Berry discusses in his book, is said to be the oldest symbols used for quartertones, implemented by Giuseppe Tartini in 1756.³⁹ This notation has its advantages and disadvantages according to Berry. A quartertone sharp is written similarly to a regularly notated sharp accidental, but with only one vertical line connecting the two horizontal lines. Berry further states

³⁷ Wallace Berry, *Musical Structure and Performance* (New Haven and London: Yale University Press, 1989), pg. 67.

³⁸ Ibid, 68.

³⁹ Ibid, 68.

that although this type of notation for quartertones is easier to read than the arrowed accidental, it only applies to sharps, leaving out any symbol for flats.⁴⁰



Example 39: Berry, Tartini Sharps.

In addition, Berry explains how there is not a method that has been developed thus far that is comparable in consistency involving quartertone flats. He states that the most practical and unmistakable way to notate a quartertone flat is by writing a backwards flat. Combining both, the concept of the Tartini sharps and backward flats signs have become standard in avant-garde music for woodwinds.⁴¹



Example 40: Berry, Tartini Sharps and Backwards Flats.

In *Zoom Tube*, Clarke employs these two types of notational symbols (Example 41), to represent which pitches are to sound as quartertone sharps and flats.

⁴⁰ Ibid, 68.

⁴¹ Ibid, 69.

N.B. embouchure unformed in speech position

Progressively uncover holes from D key to A key approximating the pitches given.

Progressively open rings from D ring to G ring

Like fading echos

molto dim.

fff

Sha ka cha ka cha ka cha ka cha ka cha ka cha ka cha ka cha

niente

Example 41: Zoom Tube, m. 35, B section.

The first gesture of the B section, shown above in Example 41, is similar to the idea implemented in the introduction. It begins on a low D at a *fff* dynamic level with the performer ascending upward sounding approximated quarter steps by progressively sliding the fingers (not lifting them) off the keys to A. This musical idea is written out with precise rhythms that suggest the effect should be in a percussive style. Once the A is sounded, further instructions are given that the performer must now gradually open the rings of the keys by lifting the fingers from the D ring to the G ring. In addition, Clarke writes a *molto dim.* that must take place while ascending through this passage. The performer must now incorporate the sounding syllables suggested below the notes by allowing an unformed embouchure set in a normal speaking position so the syllables will be heard clearly. This also enables the air required to create the residual breathy tone to become easier to achieve. This motivic idea is utilized in developed variations three more times in bars 38-46 and should be accomplished in the same manner. The following examples (see Examples 42-45) illustrate how Clarke has modified each idea just slightly from the initial one in bar 35.

37

f *molto dim.* *molto dim.* *niente*

Chew ke chew ke chew ke chew ke chew ke chew ke chew ke chew ke chew

Example 42: *Zoom Tube*, mm. 37-39, unconventional notation.

40

fff *molto dim.* *niente*

progressively uncover holes progressively uncover rings

Sha ka cha ka cha ka ka cha ka ka cha ka ka cha ka ka ch ka ka cha ka ka cha ka ka

Example 43: *Zoom Tube*, mm. 40-42, unconventional notation.

43

mf *molto dim.* (lip or gradually close keys for quarter steps in this bar)

Thpe ke chu ke thpe ke chu ke thpe ke chu ke thpe ke chu ke thpe ke chu ke thpe

Example 44: *Zoom Tube*, mm. 43-46, unconventional notation.

47

light *p* *dim.* *progressively uncover holes* *simile*

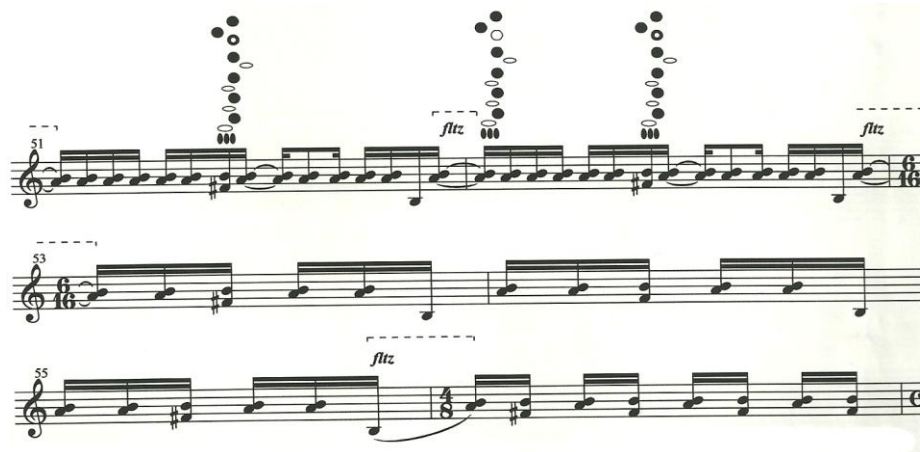
Cher ke ke ke che ke ke thpe ker ke che ke che ke Sha ke che ke che ke ke du da ke che ke che ke Sha ke che ke che ke ke che cher ke che ke che ke Sha ke che ke che ke ke ka ka ke che ke che ke

Use resonant thpe, du & da. Pick and mix in given styles for this section.

Example 45: *Zoom Tube*, measures 47-50, unconventional notation.

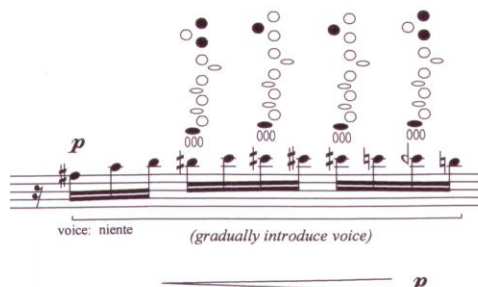
Bars 51-56 draw upon material taken from the second theme of Section A.

Rhythmic drive and intensity are increased in bar 51 by a continuous sixteenth note pattern and adding the use of multiphonics and occasional flutter tonguing. Clarke reverts to the use of compound meter as seen in the second theme of the A section. The musical gesture ends on a Bb-D multiphonic followed by several rests for a dramatic pause.



Example 46: *Zoom Tube*, mm. 51-56, transition.

In bar 58 (Example 47 below), Clarke notates an unconventional form of the blues scale, employing quarter step passing tones to create a quartertone blues scale. Clarke writes under the scale that the voice should be added to the performance of the scale at the performer's discretion. In order to master this technique successfully, the performer should practice a blues scale first before trying to work in the quarter passing tones as well as the introduction of the new fingerings. Once the pattern of this scale is learned, the performer should attempt to add the voice.



Example 47: *Zoom Tube*, m. 58, blues quartertone scale.

Clarke incorporates this scale as part of a musical gesture in bars 59-75 (Example 48) representing the imitation of a guitar riff interspersed with a percussive drum kit. This section of the piece is quite difficult because of the stamina and rhythmic intensity required of the performer. It is suggested that the performer practice these measures without any of the extended techniques. Once the rhythms are learned, one technique at a time can be added until all techniques are executed simultaneously. This section utilizes every extended technique that Clarke has written into the piece thus far. It is not a matter of learning a new technique at this point, but rather how to achieve all of them at the same time, and as a result, making the flute "groove."

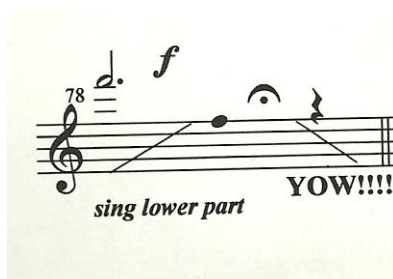
Example 48: *Zoom Tube*, mm. 59-62, development of blues scale.

In bar 76, Clarke notates another chromatic quartertone scale (Example 49), the most challenging passage in this piece. Not only are there several new fingerings to learn in order to get all the correct sounding pitches in this scale, the notated articulations are equally important. The articulations follow a simple pattern of a slurred group of four followed by a tongue-two-slur two pattern and then repeated as the scale ascends to its final note, high F. It is also important to mention that accents occur on the beat, as they are part of the musical effect.

The image shows a musical score for a chromatic quartertone scale. It consists of two staves. The first staff begins at measure 75 with a mezzo-piano (mp) dynamic marking. It features a slurred group of four notes, followed by a tongue-two-slur two pattern. The second staff begins at measure 77 with a 'poco a poco cresc.' instruction. The score includes vocalizations 'che ka che ka che ka' and 'YOW'. The notation includes various articulations such as slurs, accents, and breath marks.

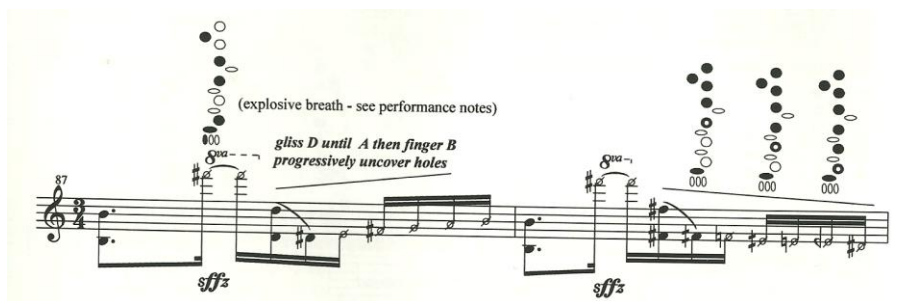
Example 49: *Zoom Tube*, mm. 75-77, chromatic quartertone scale.

In bar 78 (Example 50 below), Clarke employs similar aspects of the technique used to transition into the B section that was mentioned earlier with Example 37. However, he now includes a loud, robust vocal “YOW” that represents the release of excitement that has been building in both the performer and music. This should be made with great force with the voice. It might help for the performer to think of dropping the jaw and shoulders to have the feeling of lowering the depth of the pitch of the yell.



Example 50: *Zoom Tube*, m. 78, vocal scream.

Bar 87 marks the start of the coda that contains techniques that have already been discussed thus far, as well as some new surprises. In measures 87-88 (Example 51), Clarke adds a technique called explosive breaths, on high F-sharps. These notes are not to be sounded with a solid tone; they are notated with an open note head, referring to the residual breathy tone. This gesture is achieved by blowing the air stream very fast across the embouchure hole, sustaining an enormously airy sound with just a hint of tone. Clarke mentions in the preface that this effect is primarily for the health of the performer and recommends that it is not necessarily supposed to be a clear sounding high F-sharp, but rather a breath sound that is comfortably made by the performer.⁴²



Example 51: *Zoom Tube*, mm. 87-88, explosive breaths in coda.

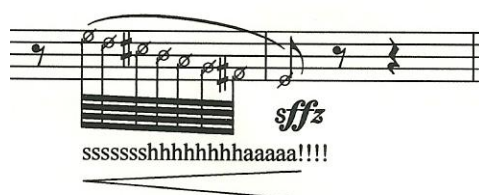
⁴² Ian Clarke, *Zoom Tube* (Surrey, England: Just Flutes, 1999).

In bar 94 (in Example 52), the jet whistle should be approached by fingering a low B as indicated and covering the embouchure hole completely by placing the mouth over it. It is not necessary to roll the flute outwards in order to get the whistle to come out, the performer only needs to blow air with great force getting the low B to respond, then include an ascent up to the F-sharp.



Example 52: *Zoom Tube*, m. 94, Jet Whistle.

The final gesture in bar 95 (seen below in Example 53) consists of a descending scale and should be approached with an immense amount of excitement with clear syllables in the speech. Even though the gesture is descending into the low register, there should be a loud crescendo to the E, making it the loudest of all the air sounded notes. It might be helpful for the performer to think of putting a breath accent on the “aaa” part of the note E in order for it to be effective.



Example 53: *Zoom Tube*, m. 95, finale.

Chapter 4

Within... For Seven Flutes

Concept

Within is a unique work for seven flutes that employs powerful and reminiscent melodic lines that continue to develop throughout the entirety of the work. It is nearly seven minutes in length and demonstrates Clarke's unconventional use of avant-garde techniques. Clarke initially began composing *Within* for flute choir in 1999, but it was not completed until 2003. In an interview, Clarke admits that in the beginning stages, "he had no real inspiration for the piece."⁴³ The idea emerged when British flutist Clare Southworth approached him about commissioning a work. Southworth was putting together a flute choir that would comprise primarily of prestigious flutists in the London area and she wanted a newly composed piece for the group. However, with the busy schedules of the members, it was difficult to coordinate rehearsal times and as a result, the group never materialized.

Clarke did not work on the composition again until 2003, when he was asked to teach at the Stratford-Upon-Avon International flute course.⁴⁴ Although the premiere as a flute choir piece was in Stratford-Upon-Avon in 2004, performed by course participants, it had been previously performed by the composer, at the Just Flutes International Flute course at Woldingham, as a solo flute piece with CD backing.⁴⁵ Today, while the flute choir version has become more popular, both versions are available through Just Flutes publications. The version for flute choir is written for seven flutes, which includes

⁴³ Ian Clarke, Personal interview, 19 May 2010.

⁴⁴ Ibid.

⁴⁵ Ian Clarke, *Within...For Seven Flutes* (Surrey, England: Just Flutes, 2005).

piccolo, four C flutes, alto, and bass. Clarke has scored the version for solo flute with CD backing for one flutist, who needs a C flute with open holes and a B foot, as well as an alto, and piccolo. The solo part contains the primary melodic lines of each of the different flute parts in the flute choir version.⁴⁶

In the performance notes in the score, Clarke describes this piece as “A unique evocative work with featured moments in all parts.”⁴⁷ Clarke comments on the title as follows:

The personal musical inspiration, character, soul of the piece is rather difficult to describe; this is reflected in the title perhaps. Some mileage maybe made out of the fact that the original sketch was made in the same year as the solo flute piece Zoom Tube was completed and, of course, it post dates Orange Dawn. Therefore musical explorations of the flute and former influences were probably at play. In a technical sense there can be some subtle and more obvious parallels drawn with these pieces should the listener be familiar; which is not at all a requirement.⁴⁸

He also states that the piece includes “accessible extended techniques are employed to give a powerful and extraordinary voice...a new experience.”⁴⁹

⁴⁶ Ian Clarke, "Ian Clarke Flautist/Composer," available from <http://www.ianclarke.net>; Internet: accessed 26 March 2010.

⁴⁷ Ian Clarke, *Within...For Seven Flutes* (Surrey, England: Just Flutes, 2005).

⁴⁸ Ibid.

⁴⁹ Ibid.

Formal Analysis

Table 6: Formal Structure, *Within*...For Seven Flutes

Form	A		B						A ¹				
Bars	1-25		26-70						71-102				
Thematic area	a	b	c	d	e	f	g	h	b ¹	b ²	a ¹	i	a ²
Measures	1-9	10-25	26-29	30-33	34-37	38-41	42-45	46-57	58-70	71-78	79-90	91-94	95-102
Key Areas	b minor e minor, A major		e minor b minor						e minor E major, c# minor				

The A section of *Within* begins in the key of b minor with a flute solo played by the first flute. This solo contains melodic material that sets the foundation for the rest of the piece (see Example 54) through developing variations in both the B section and the return of the A section.

Flick keys as indicated using graces as articulations
Akey Gkey Akey *simile*

Example 54: *Within*, mm. 1-9, opening flute solo.

In measure 10, Clarke repeats the opening solo, but states it up an octave, introducing quartertones and note bending in measure 11 (Example 55).



Example 55: *Within*, mm. 10-13, solo flute.

The harmonic language of *Within* is characteristic of many of Clarke's work. In the A section, Clarke notates tertian harmonies with added 11th or 13th, which is a common practice in the genres of music influential in Clarke's compositional style: jazz and popular music. This is seen in bar 11, where Clarke notates an e minor and d minor chord written together, or rather an e minor ninth chord with an added 11th. A similar occurrence is in bar 12, where Clarke writes a b minor ninth chord with the added 11th (see Example 56).

GM⁷

em⁹ (add 11)

bm⁹ (add 11)

Example 56: *Within*, mm. 10-13, tertian harmonies.

Another example of Clarke's harmonic vocabulary characteristic of jazz and popular music are seen in Example 57, where, in bar 18, Clarke has written an e minor ninth chord with an added 6th (C-sharp).

em^{9(add 6)} G+ G#m A^{4/3 (add 11)}

Example 57: *Within*, mm. 18-21, tertian harmonies.

As seen in Example 58 below, Clarke sets up a minor plagal cadence (iv-I) by writing an e minor ninth chord with the added 11th that sustains through bars 22-23, and then the A major chord in bar 24.

em⁹ (add 11) ----- AM (Plagal Cadence)

Example 58: *Within*, mm. 22-25, tertian harmonies.

The B section starts in bar 26 and remains in the key of e minor. This section begins in four bar phrases, incorporating various extended techniques. In measures 26-29 (see Example 59), all parts are holding whole notes with residual breathy tones as the second flute begins articulating spoken syllables into the flute while incorporating the residual breathy tones, all with a strict rhythmic pulse.

em-----

Example 59: *Within*, mm. 26-27, start of B section.

In bar 30, Clarke develops the rhythmic idea previously heard in bar 26 in the second flute by notating continuous sixteenth notes and incorporating several different extended techniques: residual breathy tones, spoken syllables, and dry-spoken articulations (Example 60). One more idea emerges in the fifth flute (this to be played optional in the first flute part instead) that integrates the idea of flicking the A and G keys while sustaining a tremolo between the notes E and F-sharp.

Optional - play if flt 1 simplifies figure

Notes without head are damped dry notes with little air - added to increase rhythmic impetuous

Choo koo chi ki cha ka ke choo ke chi ki cha ka chu ku choo koo chi ki cha ka ke choo ke chi ki cha ka chu ku Choo koo chi ki cha ka ke choo ke chi ki cha ka chu ku

Briefly flick A & G keys to sound B & G respectively whilst trilling/tremoloing with F key.
Optional - simplify by playing trills, tremolos & harmonic bursts only.

percussive breathy sound

em-----

Example 60: *Within*, mm. 30-32, developing variations.

In bar 34, the first flute enters, integrating singing and playing and quartertones in what can be best seen as a variation of the first flute's solo in measures 15-16. In measures 38-41, the first flute idea has been developed differently in terms of rhythm, still using the same techniques as the previous four measures.

Transitional material begins in bar 42, when the texture is reduced with the exit of the first and second flute. Flute three joins flute five with short eighth note patterns in the left hand and sustains quick tremolo effects, alternating the notes G-F-sharp-E in the right hand on beats one through three, with each measure ending on harmonic outbursts on beat 4 (see Example 61). Also, in bar 42, the bass flute begins a constant, repetitive

five re-enters with a constant sixteenth note pattern on the pitch B³, which is suddenly changed in bar 50 when Clarke writes the same motive found in flute three on beat two, only down one octave (compare Examples 62 and 63). In bar 49, the first flute enters playing the same gesture as flute two, only up a minor third.

At this point in the B section, Clarke builds the intensity by raising the pitches in the first and second flute and adding in voices that contain the same gesture, for instance, the piccolo's first entrance with the same idea in pick-ups to bar 54. Also in bar 54, flute five continues the sixteenth pattern only now adding the harmonic. In bar 52, the bass flute begins a sixteenth note pattern alternating a minor third, B-D.

The musical score for Example 64, measures 52-54, is presented in a multi-staff format. The top staves (flutes, piccolo, oboe, clarinet) feature complex melodic lines with many accidentals and dynamic markings. The bottom staves (bass flute, piano) feature rhythmic patterns. A 'bm' (basso mezzo) line is present at the bottom of the score.

Example 64: *Within*, mm. 52-54, .

At bar 57, the tension building in the different parts between the sixteenth note patterns comes to a halt when the first flute, on beat three, plays with the breathy tones while saying “*Shoo Sha Shi Sha.*” This gesture marks the end of the B section.

While still in the key of e minor, the pick-up to bar 58 establishes the return of the A¹ section, where a variation of the b theme found in the A section is stated as a duet between the piccolo and alto flute. The other parts continue to build and maintain the

underlying intensity with the repeating ostinato patterns that consist of mordant trills in all parts except flute five. Flute five continues with the ascending b minor scale patterns that fit together with the third flute part (see Example 65).

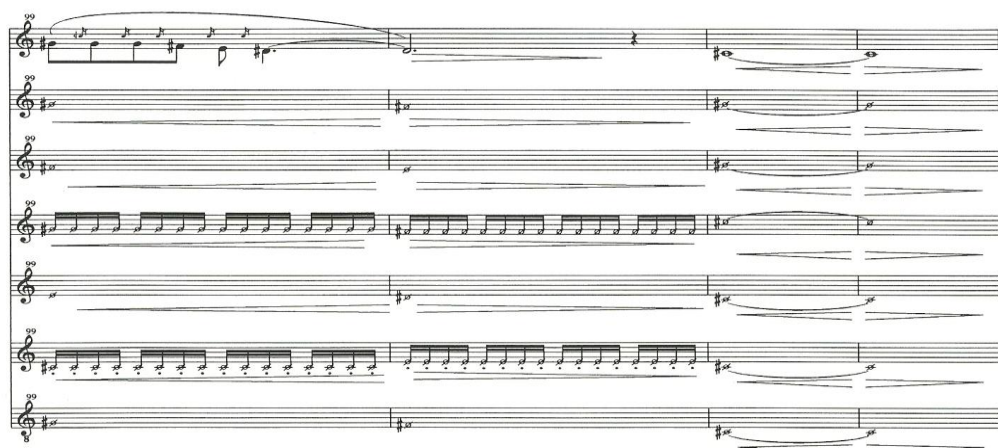
em-----

Example 65: *Within*, mm. 55-58, end of B section.

Clarke reaches the climatic moment in bar 69 with an abrupt pause, and in bar 70, there is complete silence. The pick-up to bar 71 begins with the bass flute playing a variation of descending quartertone patterns heard in the first flute solo in the opening

theme of the A section. The bass flute is accompanied by the flute choir sustaining whole notes using residual breathy tone. The solo is then passed to the alto flute in measure 76 with the continuation of the descending quartertone patterns. At bar 79, the solo develops further by incorporating timbral trills.

The solo is then passed back to the bass flute in bars 83-86 in the key of C-sharp minor and then concludes with the same statement of the solo heard in the piccolo. There is a brief transition consisting of a four bar phrase with all parts playing the residual breathy tone in whole notes, the first and fourth part playing sixteenth notes. The first flute enters with the pick-ups to bar 96 restating a final variation of the opening theme, now up a whole step. The piece concludes in the key of C-sharp minor.



c-sharp m-----

Example 66: *Within*, mm. 99-102, finale.

Performance Guide

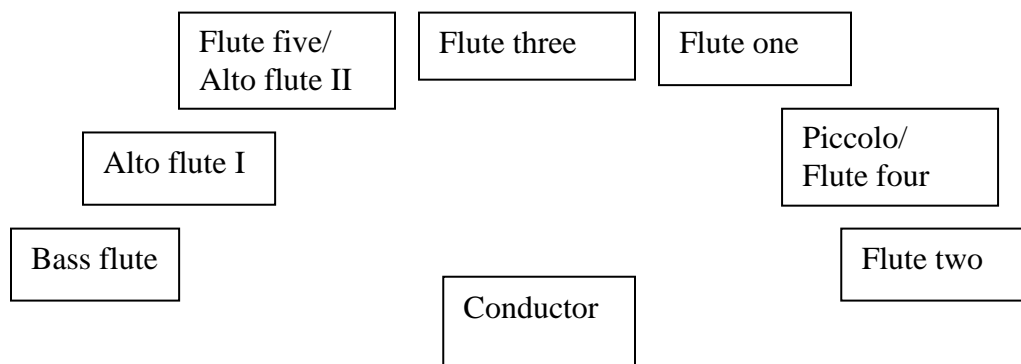
Table 7: Use of Extended Techniques in *Within...For Seven Flutes*

Sections	A	B	A ¹
Bars	1-25	26-70	71-102
Extended Techniques	Key Flicks and Trills Residual Breathy Tone Note Bending Quartertones	Residual Breathy Tone Syllabic Articulations - Slashed note heads - Shadow note heads Key Flicks and Trills Quartertones Singing and Playing Explosive Harmonics	Residual Breathy Tone Quartertones Timbral Trills Key Flicks and Trills

Clarke provides performance notes in the preface of the score to explicate the different techniques utilized in this piece. These instructions are similar to what has been discussed in previous chapters; therefore, the discussion of performance practice will pertain primarily to ensemble issues.

The author had the opportunity to observe a rehearsal of *Within* , where Clarke worked with the Nebraska Flute Choir. He opened the rehearsal with a brief discussion on part placement within the ensemble, suggesting an unusual placement of parts that he says seems to work well when performing this piece. This particular set-up allows for parts with similar lines to hear each other more clearly. Table 8 demonstrates this arrangement.⁵⁰

⁵⁰ Ian Clarke, Rehearsal with Nebraska Flute Choir, Community Music School of Webster University (St. Louis, MO: 19 May 2010).

Table 8: Positioning of Flute Choir

As a flute choir begins working on this piece, it might help to take out all solo lines and begin with just the accompanimental parts. The solo lines in flute one, piccolo, alto, and bass require individual practice to achieve mastery of the new necessary fingerings for the quartertone passages.

When rehearsing the accompaniment parts, the group should first work on the residual breathy tones that occur in all of the parts in the A section. In order to save time, it is beneficial to start in bar 14, where all accompanying parts have entered. It is important to note that in bar 15 on beat 4, the filled in quarter note head with a slash through it still represents the residual breathy tone, and does not require any other articulation except for the initial attack on the beat. As in other pieces previously discussed, Clarke notates the slashed note-heads to indicate the residual breathy tones. In the performance notes in the score, he suggests the following in order to achieve this technique successfully:

Bringing the jaw up and forward so the bottom teeth almost touch in front of the top teeth may facilitate this effect. Although loosening the embouchure is sometimes helpful, it is counter productive when trying to produce long phrases.⁵¹

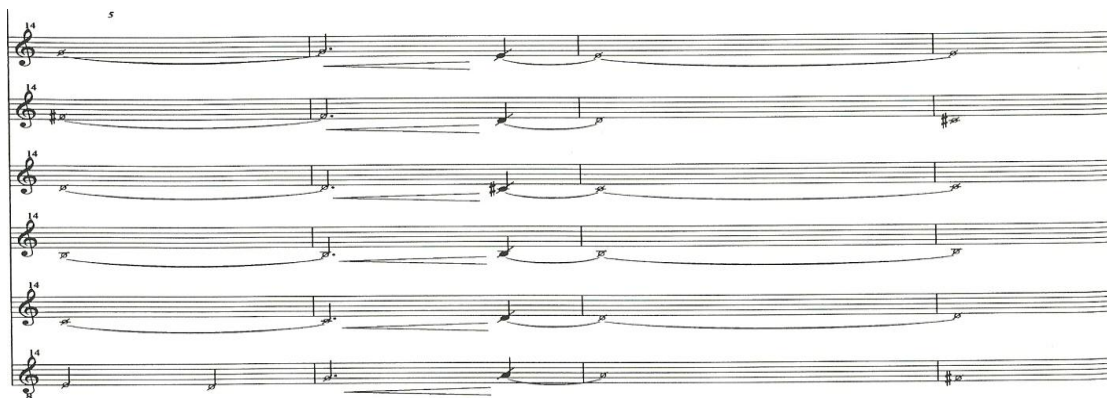
In addition, each flutist should hold the flute in playing position instead of holding the flute in a more relaxed, slanted style so that the air will go more across the embouchure hole creating a bigger, airy sound.

Clarke employs slur markings and dynamics to indicate phrasing throughout all sections incorporating residual breathy tones. All players need to follow these markings carefully as they are an important element of the effect in the music. Each gesture requires a soft attack at the beginning of each measure and then a crescendo to the end of the measure, with a sudden shift back to the softer dynamic for the following measure. Clarke notates slur markings to demonstrate the length of crescendos and decrescendos if they occur differently in the measure. Refer to Examples 67 and 68 to compare how Clarke notates this phrasing technique.



Example 67: *Within*, mm. 10-13, demonstrating dynamics to indicate phrasing.

⁵¹ Ian Clarke, *Within...For Seven Flutes* (Surrey, UK: IC Music/Just Flutes Edition, 2004).



Example 68: *Within*, mm. 14-17, demonstrating slur markings to show phrasing.

Once the group is able to sustain the held notes accurately, incorporating Clarke's written phrasing structures, then the A section has been adequately rehearsed in the accompanimental parts.

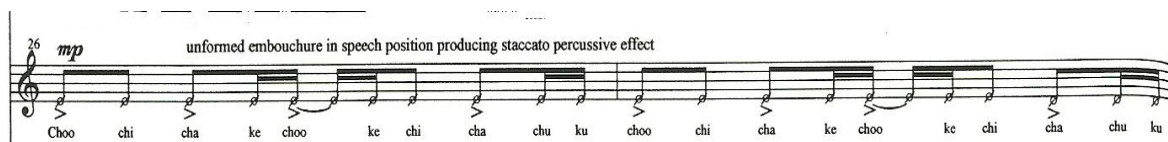
Next, rehearse the return to the A¹ section, which starts in bar 83. The accompaniment in this section is similar to the beginning, only now Clarke indicates a sixteenth note pattern utilizing residual breathy tone in some of the parts, and the sustained residual breathy tones in the other parts (see Example 69). The use of dynamics and slur markings to indicate phrasing are utilized in the same way as previously stated. It is essential to note at this point to make sure that the sixteenth note patterns are articulated clearly.



Example 69: *Within*, mm. 83-86, residual breathy tones.

The next step is to begin working through the different techniques and rhythms among the parts in the B section. Starting in bar 26 (Example 70 below), even though there is no indication, the tempo increases slightly. This is important because the second flute begins with an extremely rhythmic and percussive motive. This gesture employs a strict rhythmic pattern while playing residual breathy tones and incorporating specific spoken syllables. It is crucial to play the written rhythms, as they are central to the percussive feel to this part of the B section. It is also vital to observe when the pitches change in the second flute at the end of measures 27 and 29. Clarke suggests the following in order to achieve this technique:

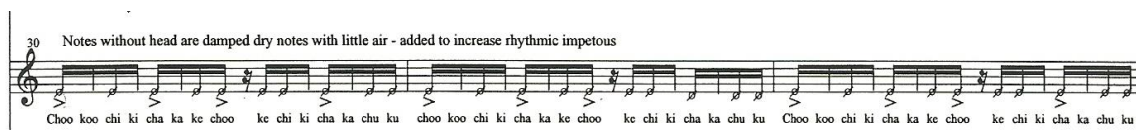
The '*choo chi cha ke chook e chi cha chu ku*' articulations in flute 2 are produced with the embouchure in speech position to produce a variety of percussive breathy sounds. The consonant and vowel are usually important to note; hence a '*choo*' is distinct from a '*cha*'.⁵²



Example 70: *Within*, mm. 26-27, flute two.

⁵² Ibid.

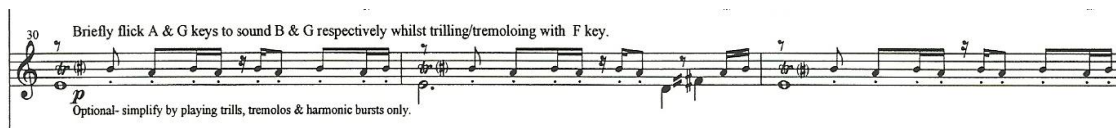
In bar 30 (Example 71), the initial idea in flute two has been developed slightly, now containing a constant sixteenth note pattern with a sixteenth note rest on beat three. It includes the same extended techniques as in measures 26-27; however, it now utilizes the dry articulated syllables sporadically within each beat (similar to a technique used in *Zoom Tube*).



Example 71: Within, mm. 30-32, flute two.

The accompaniment lines are now given other musical ideas besides the sustained breathy tones. Flute five (optional in flute one) has been given a sustained E trill while flicking the A and G keys to sound the pitches B and G, while playing the repeated rhythm notated (see Example 72 below). Depending on the proficiency level of the group, and how many flutists are on each part, it might work well for multiple flutes to be assigned to part five so that one flutist may play the trill while the other plays the repeated, rhythmic pattern. Otherwise, if there is only one flutist playing the part, it would be easiest to accomplish this technique by first playing the rhythmic gesture out of context so that the rhythm is secure. Then, while playing the trill, start to flick the A and G keys until it feels comfortable. Finally, establish the intended rhythm that Clarke has notated along with the trill. If at some point this just becomes too difficult to master, Clarke suggests in the score that this may be simplified by just playing the trills,

tremolos, and harmonic bursts, because by bar 34, flute three contains the optional rhythmic gesture as well.



Example 72: *Within*, mm. 30-32, flute five.

In bar 32 (Example 73), the bass flute continues the residual breathy tones playing the sixteenth note pattern that was discussed earlier. In measure 36, Clarke indicates that flute four may have the option to play the repeated, rhythmic gesture intended for flute five. In measures 36-39, Clarke notates short, harmonic bursts on beat four of each measure in flute five that are crucial for the four-measure phrase leading to the climax in measure 39, where these harmonic bursts occur on all four upbeats in that measure.

Example 73: *Within*, mm. 36-38, flutes four-five.

In bar 42, Clarke develops the previous material once again (see Example 74 below), beginning in flute three, with a simplified or optional part for flute five. Clarke specifically writes out the tremolo at this point, suggesting a rhythmic pattern within the tremolo. While playing the tremolo, flute three is to flick the A and B keys, playing a modified version of the repeated, rhythmic pattern previously heard in flute five. Clarke also employs the harmonic bursts on beat four, however, in a much more rhythmic pulse.

Example 74: *Within*, mm. 42-43, flutes three-five.

Also in bar 42, the bass flute has eighth notes with tenuto markings over them followed by eighth rests. This ostinato pattern continues until bar 51. In bar 44, the alto flute joins the bass flute, only the alto plays on the upbeats.

Once the lower flute parts have been mastered, it is time to work on the upper flute parts, starting at the pick-ups to bar 46. Measures 46-57 are crucial in the first four flute parts because, as the lower parts have established an ostinato pattern containing the repeated, rhythmic intensity, the upper voices provide the foundation for building to the climax of this section in bar 57. Flute two starts with pick-ups into bar 46, with a sixteenth note followed by an eighth note leading to four sixteenth notes on beat one of bar 46. Flute three then answers this gesture with a sixteenth rest followed by three sixteenth notes on beat two (see Example 75). The next four bar phrase begins with pick-

ups into bar 50, in which the pattern continues in flutes two and three, and flute one adds to the texture by joining flute two (Example 76). Finally, with the pick-ups to bar 54, the piccolo joins the texture while flutes two and three increase intensity with the addition of sixteenth notes on beats two and three, and all parts begin to ascend higher in range (see Examples 77-78 below).

Example 75: *Within*, mm. 46-48, flutes two-three.

Example 76: *Within*, mm. 49-51, flutes one-three.

Example 77 is a musical score for measures 52-54, featuring flutes one-three and piccolo. The score is written on four staves. The first staff (flute one) has a measure number of 52 and includes the instruction "(continue to sing previous riff as indicated by square headed notes)". The second staff (flute two) also has a measure number of 52. The third staff (flute three) has a measure number of 52. The fourth staff (piccolo) has a measure number of 52. The music consists of complex rhythmic patterns with many beamed notes and rests. There are dynamic markings such as *ff* (fortissimo) and *f* (forte) throughout the piece.

Example 77: *Within*, mm. 52-54, flutes one-three and piccolo.

Example 78 is a musical score for measures 55-57, featuring flutes one-three and piccolo. The score is written on four staves. The first staff (flute one) has a measure number of 55 and includes the instruction "Shoo Sha Shi Shah" above the notes. The second staff (flute two) also has a measure number of 55. The third staff (flute three) has a measure number of 55. The fourth staff (piccolo) has a measure number of 55. The music consists of complex rhythmic patterns with many beamed notes and rests. There are dynamic markings such as *ff* (fortissimo) and *f* (forte) throughout the piece.

Example 78: *Within*, mm. 55-57, flutes one-three and piccolo.

It is necessary in the first four parts of this twelve bar section that everyone works to achieve the rhythmic intentions Clarke has notated. In addition, it is suggested that all players look over the fingerings carefully so that the correct quartertone pitches are heard throughout while singing and playing.

In bar 58, the parts become more unified in flute one, two, three, and bass, with continuous mordent trills that play under the piccolo and alto flute duet. It might be easier

to work this section by establishing consistency in the mordent trills among all parts, then adding flute five with the ascending minor scale passages. Players should make sure that flutes three and five pass the scale patterns back and fourth between the up and down beats in measures 58-69 (see Example 80). This section then comes to a complete measure of silence in bar 70.

The image shows a musical score for five flutes, numbered 1 through 5, across measures 58 to 69. The notation is as follows:

- Flute 1:** Measures 58-69, marked *loco* and *f*. It features a series of mordent trills.
- Flute 2:** Measures 58-69, marked *loco* and *f*. It features a series of mordent trills.
- Flute 3:** Measures 58-69, marked *loco* and *f*. It features a series of mordent trills, with a note in measure 58 marked "link with fl. 3".
- Flute 4:** Measures 58-69, marked *f* and *espressivo*. It features a series of notes, with a note in measure 58 marked "run link with fl. 3".
- Flute 5:** Measures 58-69, marked *loco* and *f*. It features a series of mordent trills.

The score is attributed to Ian Clarke 20.

Example 79: *Within*, m. 58, unified parts.

Only after the accompaniment and tutti parts have been successfully rehearsed is it time to add the solo lines.

Chapter 5

Conclusion

Common Threads, Context with the Flute Literature of Extended Techniques

The purpose of this document was to provide a formal and performance analysis for three well-known compositions by Ian Clarke: *The Great Train Race*, *Zoom Tube* and *Within...For Seven Flutes*. In order to understand Clarke's compositional style, a brief discussion covered his biographical background as well as influential musicians and composers. The successive chapters provide a detailed analysis of each piece mentioned above, including information concerning motivation, formal structure, and an examination of performance issues.

While there exists a body of literature that examines flute compositions containing avant-garde techniques, this is the first document that explores the distinctive style of Ian Clarke. In his compositions, he utilizes ideas that originate from improvisation, including non-traditional sounds, later incorporating these ideas into written pieces using avant-garde notation. This notation is very specific with each technique, allowing the performer to fully understand what Clarke intends in the music.

Table 9 provides a selected list of unaccompanied flute repertoire that contains avant-garde techniques similar to those found in Clarke's music. The table is a reference list for the reader who might be interested in exploring other solo flute literature with the types of techniques discussed in this document.

**Table 9: Selected Unaccompanied Flute Literature
Containing Extended Techniques Similar to Those in Clarke's Compositions**

Date	Composer	Title	Publisher
1977	Aitken, Robert	<i>Icicle</i>	Éditions Musicales Transatlantiques
1958	Berio, Luciano	<i>Sequenza I</i>	Zerboni/Universal
1999	Brown, Elizabeth	<i>Trillium</i>	Quetzal Music
1993	Colquhoun, Michael	<i>Charanga</i>	Self-Published/Colquhoun
1983	Dick, Robert	<i>Flying Lessons Vol. I</i>	MMB Music
1987	Dick, Robert	<i>Flying Lessons Vol. II</i>	MMB Music
1989	Dick, Robert	<i>Lookout</i>	MMB Music
1971	Ferneyhough, Brian	<i>Cassandra's Dream Song</i>	Peters Edition
1962	Fukushima, Kazuo	<i>Mei</i>	Suivi Zerboni
1979	Heiss, John	<i>Etudes for solo flute, op. 20</i>	JBE and Son Music Publishers
1986	Stockhausen, Karlheinz	<i>Xi</i>	Stockhausen-Verlag
1989	Takemitsu, Toru	<i>Itinerant</i>	Schott

The examples in Table 10, below, compare extended techniques in *Zoom Tube* to those in two compositions that were influences on Clarke's style: Robert Dick's *Flying Lessons, Volume I*, and Karlheinz Stockhausen's *Xi*. Three aspects of these pieces were compared: the use of various avant-garde techniques, notation, and performance notes from the composer giving detailed explanations of performance practice. The chart is designed to provide further insight into the flute literature that was so influential on Clarke when composing the works discussed in this document.

**Table 10: Comparison of Clarke's Zoom Tube with Works by
Dick and Stockhausen**



	Clarke: <i>Zoom Tube</i>	Dick: <i>Flying Lessons I</i>	Stockhausen: <i>Xi</i>
Primary Use of Notation:			
<i>Standard</i> -Western notation	X	X	
<i>Atypical</i> -notation provided by composer	X	X	
<i>Proportional</i>			X
Avant-Garde Techniques:			
<i>Residual Breathy Tones</i>	X	X	X
<i>Singing and Playing</i>	X	X	X
<i>Multiphonics</i>	X	X	
<i>Quartertones</i>	X	X	X
<i>Note Bending/Glissando</i>	X	X	X
<i>Articulations</i> - Conventional - Slashed note heads - Shadow note heads	X		
<i>Flutter Tonguing</i>	X		X
<i>Syllable Vocalization</i>	X		
<i>Jet Whistle</i>	X		
<i>Harmonics</i>		X	
<i>Percussive Sonorities</i>	X	X	
<i>Unusual Trills</i> -Tremolos -Timbral	X	X	X
Performance Notes from Composer:			
<i>Notes are in great detail</i>	X	X	X
<i>Finger Diagrams</i> -Includes new fingerings	X	X	X
<i>CD/Tape provided for demonstration</i>		X	

Robert Dick's *Flying Lessons, Volume I - Six Contemporary Concert Etudes*, written in 1984, was intended as an instructional tool for the modern flutist. Dick's use of notation includes traditional western notation; however, he also employs unusual signs and symbols that alter the performance practice. When compared to the notation of *Zoom Tube*, Dick uses a different type of notation for the following avant-garde techniques: singing/playing, residual breathy tones, and quartertones. Below, in table 11, are examples of the different types of notation found in Dick's *Flying Lessons I*:

Table 11: Notation in Robert Dick's
*Flying Lessons, Volume I - Six Contemporary Concert Etudes*⁵³

Singing/Playing = 

Residual Breath = *Resid.*

Quartertones = quarter sharp 
quarter flat 


Karlheinz Stockhausen's *Xi: für ein Melodie-Instrument mit Mikro-Tönen* (pronounced "ksee") greatly influenced *Zoom Tube*. It was written in December 1986 as a Christmas present for clarinetist Suzanne Stephens.⁵⁴ In the performance notes,

⁵³ Dick, Robert. *Flying Lessons: Six Contemporary Concert Etudes*, Vol. 1. St. Louis, MO: Multiple Breath Music Co., 1984.


⁵⁴ Stockhausen, Karlheinz. *Xi: für ein Melodie-Instrument mit Mikro-Tönen*. Translated by Suzanne Stephens and
Realization by Kathinka Pasveer. Stockhausen-Verlag: Kürten, Germany, 1998.

Stockhausen states that it “can be played on any wind instrument having keys or valves, or on a synthesizer having variable micro-scales.”⁵⁵ Currently, there are two realizations of this piece: the first realized for basset-horn by Suzanne Stephens in 1986 and the other realized in 1987 by flutist Kathinka Pasveer. The piece represents “a unique design for the use of quartertones creating timbre changes and different dynamic shades.”⁵⁶ The written notation can be bewildering at first; however, the performance notes provide helpful insight to the performance practice issues. Common notational practice between *Zoom Tube* and *Xi* were evaluated, concluding that although Clarke found inspiration from this piece, there are differences in notational style. Table 12 demonstrates the notation used for avant-garde techniques in *Xi* compared with the notational style of both Clarke and Dick:

Table 12: Employment of Notation in Stockhausen’s *Xi*⁵⁷

Quartertones = standard written notation with a slash  representing the direction in which to ascend/descent. In the realization, there is standard notation as well as new fingerings provided for the quartertones

Singing/Playing = *singen* (the note to be sung is written in the staff)

Residual Breath: defined as “coloured noise” (like wind) = 

⁵⁵ Ibid, II.

⁵⁶ Ibid, II.

⁵⁷ Ibid, II.

In Table 13 below, the author has provided a reference list for pieces that contain traits in common with Clarke's flute choir piece, *Within*.

Table 13: Reference List of Selected Literature for Flute Choir that Incorporates Avant-garde Techniques

Date	Composer	Title	Publisher	Avant-Garde Techniques
1976	Medek, Tilo	<i>Departure of a Steam Train</i> <i>Abfahrt einer Dampflokomotive</i>	Magnolia Publications	Flutter-tonguing, Residual breathy tone Special effects
1997	Offermans, Wil	<i>Kotekan</i>	Zimmermann	Wind tones, Harmonics
1995	Offermans, Wil	<i>Jungle Dance for Bottles</i> <i>and Flutes</i>	Zimmermann	Sing/play, Residual breathy tone
2003	Pearce, Ann C.	<i>Serendipity</i>	ALRY	Use headjoint only
1996	Rearick, Martha	<i>Avant-Garde Sampler</i>	Falls House Press	Use headjoint only Note bending, Key clicks, Measured vibrato, Sing/play, Alternate fingerings for effects, Flutter tonguing

It is hoped that the discussion contained in this document will provide flutists with a deeper understanding of the music by Ian Clarke. Using this document as a resource for formal analysis and performance practice issues should help the reader and performer understand the importance of preparing Clarke's music for performance.

Appendix A

Transcript of Questions Emailed to Ian Clarke

February 24, 2010

Shelly Monier: Concerning the character of the timbral trill section, did you intend for this section to represent a "cliffhanger" as in part of a story?

Ian Clarke: I think that the 'cliffhanger' description probably better fits this section'will the train make it over the pass? ... it's a 'hold your breath' moment! ... it slows, slows, slows, hangs the train disappears from view for a moment ... then bursts out at top speed the other side. However, it might be worth saying that whilst the title and composition emerged together there was not an explicit narrative that led the form of the piece. I sometimes tell a story when I perform, as you know, but this is a fun description of what you might imagine as you listen to the piece rather than the story that led to the composition of the piece. For example I sometimes mention the film Dumbo as I recall that there is an anthropomorphized train in it that the gets faster and faster. This is an image that occurred to me sometime after the piece was finished. Coincidentally, Robert Dick also sat and watched Dumbo with our children at our house once as I have obviously been influenced by Robert amongst others, particularly at the time I wrote the GTR, then I guess there might be some poetic retro fit link there. In the end the piece has an internal logic and narrative somehow.

SM: I have a few questions regarding the timbral trill section in GTR. After researching the technique, I was curious if these timbral trills could also be called microtonal trills with the way in which you have notated them E-flat to D quarter-sharp to C double-sharp. In Kurt Stone's book, Music Notation in the Twentieth Century, he defines timbral trills as trilling with the same pitch and microtonal trills as trilling between slightly different pitches (quartertones basically). In measure 76 of GTR, I get the timbral trill, however, in measure 74 when you notate the E-flat, I can see the microtonal trill more evident. Finally, what really throws me for a loop is that in the preface you do call the E-flat a D-sharp, so that would justify it being a timbral trill. I hope I haven't confused you in any way. Basically, I would just like a short explanation as to why you call it a timbral trill?

IC: I agree they could be called microtonal trills or perhaps microtonal tremolos. Indeed this is an area naming that gets a little fuzzy: When is a timbral trill which has pitch variation a micro-tonal trill? When is a micro-tonal trill which has a strong timbral element a timbral trill? When is a bisbigliando a timbral trill or is that the same thing? Since a bisbigliando on a flute frequently has a microtonal element should we call it a the more commonly used micro-tonal or timbral trill? When the pitch goes slightly down should we call it flattment

or is flattment a type or microtonal trill when we're on the modern flute? I would not necessarily define a microtonal trill as having to be quartertones. In Robert Dick's *Tone Development Through Extended Techniques* the examples of 'Timbral Trills' he gives could be argued to fall into the various categories of: timbral, microtonal & bisbigliando/flattment. I seem to recall that this is where I got the idea that these passages in *The Great Train Race* were best described as timbral trills. However, on reflection, they are not really good examples of any of the above since they employ more than two positions so an obvious terminology does not leap to mind ... I could make something up I guess! I recall having a discussion with Matthias Ziegler recently about some of this ... the conclusion at the time was that things were a little fuzzy. In *Touching the Ether* the finger vibrato or what I might in future call gliss finger vibrato could be confused with flattment if the performance notes were not read. As with many things in contemporary music I think it needs to be explained as far as possible ... at least for the moment.

July 12, 2009

SM: What year did you graduate from Imperial College?

IC: 1986

SM: In what year did you and your former band members receive your first record deal?

IC: Golly ... 1987 ... not a record deal in the conventional sense as it was a library album not a commercial album but not bad straight after college I guess.

SM: What was the name of the album? And in what year was it produced?

IC: Environmental Images. 1987 I think ... must be written down somewhere.

SM: In what year did your band break up and then Diva Music was created?

IC: Diva Music was created before the band broke up ... around 1992-1993 off the top of my head. It began when we took over the release of a commercial single that was recorded in our studio by another artist ... we acquired the label Diva Records along with the Diva logo. Around this period Simon was producing the band Carter the Unstoppable Sex Machine with had many hits including a no. 1 album. David Hicks left in 1995 when Simon & I continued as Diva Music Composers www.divamusic.co.uk.

April 3, 2007

SM: As I am preparing for my lecture recital, which will involve the start to my doctoral document, I was hoping that you could give me a short background on the growing popularity (Who is performing them? What awards have they received?) of the following pieces: *Orange Dawn*, *Zoom tube*, *Great Train Race*, and *Tuberama*.

IC: *Orange Dawn*:

Shortlisted by the Society for the Promotion of New Music (SPNM) 1993?. They short list pieces and then promote a debut/premiere concert in London; this concert was at the British Music Information Centre BMIC. A player called Roland Sutherland did the official premiere (although I had actually already performed it). His web address is <http://www.rowlandsutherland.com>

Zoom Tube:

Included in the new Peters Edition GCSE Anthology of Music 2006h(book and CD) in the Area of Study 2 - Expressionism, Serialism, Experimental and Electronic Music as an accessible example of extended instrumental techniques. They had have previously used a couple of the Berio *Sequenza* and *Stripsody*. I haven't got a copy of this yet which reminds me to chase them. It is now published and being used I gather.

Orange Dawn above is the only piece I think I've entered for anything. *Zoom Tube* has been used in a number of competitions but that has been independent from me. A Clarke piece has been in a final recital programme at the GSMD every year since 1998 (not sure whether or not it will this year); initially *Orange Dawn* was played. I think I'm correct in saying that pieces have been used in final recital programmes in all the major conservatoires in the UK i.e. GSMD, RCM, RAM, TCM, RNCM, RSAMD. Don't know whether that has any relevance but in reality that probably means more than the SPNM thing.

Trinity Guildhall - external exam syllabus 2007

<http://www.trinitycollege.co.uk/site/?id=1052> (can get a copy of syllabus here) '*Hypnosis*' & '*The Great Train Race*' - are grade 8 pieces (*The Great Train Race* has been a grade 8 piece on the previous Guildhall exam syllabus from 2000 before the separate Trinity Guildhall exams merged) '*Sunstreams*' - is grade 7.

ABRSM <http://www.abrsm.org/?page=home> are looking to use '*Sunstreams*' for grade 8 from 2008 (different idea about standard although supposed to be similar level between two boards). Of course '*Sunstreams*' stands out less in relation to other Clarke pieces but will become very much more high profile to many people who use the ABRSM exam system. The majority of teachers and therefore pupils use this system in the UK and it covers 80 countries apparently. I know through different pieces at the moment as it is but it will be strange for '*Sunstreams*' to become high profile. I guess this is inevitable as it is currently the most technically accessible for the player.

February 6, 2006

SM: I am writing this email because I thought you would like to know that I have finalized my doctoral document topic, in which the current title stands as "The Music of Ian Clarke." I have greatly enjoyed all of your works and after hearing you perform some of these works at the last convention, I truly found an even greater appreciation for them. I would love the opportunity to research you and your works for my document. I was wondering if you knew of anyone that is currently researching your compositions for their degree requirements?

IC: Thank you for your email. I'm lovely to hear that you have enjoyed my music some of it cowritten as you will know! In terms of your document, I seem to recall somebody mentioned I was featuring somehow in a dissertation that somebody was doing at Cambridge.

Would you like me to find out more? Would this affect you?

SM: If you don't mind and it is no trouble to you, I would like to know if someone has already chosen to research your compositions for their doctoral work.

IC: I have established who is doing something on one of my pieces at Cambridge and it is a final year Undergraduate. He is doing project/performance essay connected in some way with '*The Great Train Race*' and his final recital. He is coming for a lesson sometime soon so I will know more then.

Appendix B

Transcript of In-Person Interviews with Ian Clarke

March 24, 2007

Shelly Monier: When were you born? Where?

Ian Clarke: 1964. I was born in Broadstairs, England. This is a small seaside town in Kent, which is in the Southeastern part of England. When I was three we moved to Coventry and when I was eight we moved again to Camberley.

SM: What do your parents do? Are they musicians?

IC: I grew up in a house full of musicians. My mother taught piano and cello lessons. My father held a career as chemist, but in his younger years, he did play the double bass in the National Youth Orchestra of Great Britain. And, my grandfather was a professional musician. He played organ and piano. My auntie Joan played the organ as well. In fact, she was sort of like a child prodigy. Although she gave it up for psychological reasons and not to mention that the war came. My brother did play the trombone for a while. My wife is a musician too. We met in the County Youth Orchestra when I was thirteen. We finally became an item when I was about eighteen. She continues to play and teach the flute, and she takes care of our two girls Bella and Abby.

SM: Let's talk about your educational background, primarily in music. When did you begin playing the flute?

IC: My parents wanted their children to learn music. My first musical instrument was the recorder, which I believe I started playing when I was five or six. I just loved the recorder at the time; it really created a great foundation for me. I started playing the piano at either eight or nine but was really becoming obsessed with the idea of playing the flute. I kept asking my parents to buy me one. For my tenth birthday, my parents found a secondhand flute that had cost 20 pounds. I was in heaven with my new instrument, even though it really was a piece of junk. Since it was missing some of the plating, the flute looked more of a green color instead of silver. I believe it was a Yamaha. Anyway, I could not put that instrument down; I taught myself how to play that thing in the beginning. When I started real flute lessons, my first teachers were actually clarinet teachers. I believe this is what laid the foundation for so many bad habits in the beginning stages of my playing. It was not until I was sixteen that I started taking lessons from flute teachers. I took lessons from Simon Hunt and Averil Williams at the Guildhall School of Music & Drama in London. When I turned eighteen, I actually moved to London.

SM: What about classical training?

IC: I must give a large majority of my classical background to my piano teacher, Joyce Clarke (no relation too me). It was through these lessons that I learned quite a lot of theory. She encouraged me as I began composing a few basic things. I must say that now that I look back, she was a brilliant teacher. When I was studying with her, I did not realize just how good she was. She had studied at Julliard and had some very talented students. I think at one point, she actually thought that I would become a classical pianist. I don't think that it took long for that thought to leave her mind.

SM: In your last comment, you mentioned that you composed a "few things" while studying with Joyce Clarke. What other events in your life inspired you to start composing?

IC: It was in my late teens that I really took an interest in composing. Me and some of my mates had started a rock band and I decided to write for the group. It was at this point when I was being creative with my mates and this started to push me outside the normal classical style, it was through this experience that I learned what a blues scale was. I remember looking at their guitar books and becoming quite fascinated with the jazz and rock harmonies that I saw. I became intrigued with this new, interesting style, and sought out to read any jazz books that I could get my hands on. Through my college years, I became much more serious with the band and it was around the time that I graduated that the band received the opportunity to record an album. In the studio sessions, I remember the producers kept asking me to experiment with creating different or unique sounds on the flute. They kept saying that I was playing the flute "too pretty." So, I began experimenting with trying to make my instrument sound like the others instruments in the band, the guitar and synthesizers. I discovered a number of new, interesting timbres capable of being produced on the flute.

SM: Who are some of the influential musicians that you have looked to for your compositions and flute playing?

IC: I would definitely have to say Robert Dick and Ian Anderson have highly influenced my flute playing. As far as composers, I really admire the work of Karlheinz Stockhausen and I really enjoy listening to Bobby McFerrin.

SM: When you are composing, do you think about some of the standard theory techniques in classical music as far as form, harmony, texture, and melody? Or, do you compose in a style that is more related to other genres of music?

SM: Let's take a moment and talk about *The Great Train Race*. What inspired you to compose such a piece?

IC: Composing with structure? I know that these items exist, but to be honest I don't think about them much when I am sketching ideas down. The first thing that comes to mind for me is what sounds good.

IC: The inspiration for *Great Train Race* came from several different ideas that I was interested in. I was fascinated with what Robert Dick was doing, specifically in his Paganini Variations with the multiphonics. Also, one day in the studio I was messing around improvising and began to discover some cool effects that the flute could do. I sort of discovered that multiphonics could sound like a train. I liked the way that the E octave multiphonic sounded like a train whistle. So, I started sketching some ideas down on manuscript.

SM: What about *Zoom Tube*? It is on a very different level than *Great Train Race*. What was your inspiration for this piece?

IC: I can't say that *Zoom Tube* was conceived out of one set inspiration. There were many interests going through my mind at the time, so I would have to say that the piece has many different aspects of influence associated with it. Most notably, rhythm and blues. I was listening to a lot of Bobby McFerrin at the time. I wanted to demonstrate that the flute could groove much in the same way as a guitarist might, so implementing multiphonics and damping techniques was necessary. Therefore, Robert Dick played a major role in the creation. When I had heard Stockhausen's *Xi*, this intrigued me a great deal, so I explored the use of quartertones and breathy sounds. I wanted other worldly sounds to draw upon, so I began investigating how to incorporate tone colors similar to South American flute playing. In the end, the birth of this work came from a large percentage of exploring the limitations of the flute through experimentation and improvisation.

SM: What jobs have you held in the music business?

IC: Let's see here, I taught piano and flute lessons in my younger years as a way to earn money. And through the gigs that my band booked. I have taught some summer flute courses throughout the UK as well.

SM: Do you currently hold any academic positions as a part of your career?

IC: I currently teach flute at Guildhall, I have been there since 2000. I continue to teach summer courses throughout the UK. And I am getting a lot of gigs in other countries these days. Specifically, master classes and concerts.

SM: What kind of future projects are you working on? What can we expect from Ian Clarke in the next ten years?

IC: WOW! That is quite a question! I want to continue performing for people that not only enjoy my music but also like what I am doing on the flute. I don't want to just play my music, I enjoy playing other pieces as well. I am thinking about composing a concerto in the future. Galway and I are putting something in the works. I don't think that there are

enough "good" quality concertos out there. I am thinking about putting another CD on the market, maybe an intermediate one with other people's works on it. I will continue composing, I might investigate some flute and guitar stuff. I want to play the flute better.

May 19, 2010

Shelly Monier: When did you start composing *Within*?

Ian Clarke: The initial idea was conceived in 1999, but nothing was really completed until 20003. I finished two versions actually. One for flute choir and another for solo flute and CD backing.

SM: Since we have not really discussed this piece in previous discussions, I was hoping that you could give me a short background of the piece and how it developed.

IC: Really, this piece does not have some elaborate story attached to it for inspiration. The idea was presented when Clare Southworth approached me about commissioning a work for a flute choir that she was putting together. She wanted to put together a group that would comprise of some of the "big" name flutists in the London area. We had discussed some of the details for the work, but nothing ever came out of it because the group never materialized. I guess you could say that the personal musical inspiration behind the piece is rather difficult to describe. The original sketch dates around the same time as *Zoom Tube*, so you could say that some of the same musical explorations and influences of *Zoom Tube* are present. I guess there are some subtle yet obvious parallels to the two.

SM: So, why did you bring the idea back almost four years later?

IC: When I was asked to teach at the 2004 Stratford-Upon Avon International flute course, I thought it would be nice to have something for the students to play as a group. Although this was the first premier of the piece, I have to say that it was heard earlier that year in the UK at the Just Flutes International Flute Course when I performed it with the CD Backing.

Appendix C

Transcript of notes taken from master class at the National Flute Association's Annual Convention in New York with Ian Clarke.

August 16, 2009

The following are comments in which Clarke suggested to help the performance of *Zoom Tube*:

General Comment: In this piece, the "groove" is the most important element. You need to find musicians of this style and listen to them. You should take a look at Robert Dick's *Fish Are Jumping* and anything with Bobby McFerrin. When working on the piece, record yourself to see if you are grooving. Also, I would prefer that you perform it memorized. I think this will help as well. You must be able to feel the pulse, it is very important. Don't skip the rests as they play an important role in the music. I need to feel the groove in the silence.

Opening Gesture: For this you need your chin to be glued to the flute so you have absolute stability. You can move flute forward to get the breathy sound but make sure that your chin stays against the flute. A smaller aperture will give you more time to give more sound. You must also find a way to have a much faster air speed through this passage in order to create the dynamic changes that are written. This first line must be in one breath.

Blues Scale: Take time to really learn the blues scales. Start jamming with them and even improvising your own ideas. This will help the blues section not only groove more but help you feel more comfortable.

Multiphonics: Investigate the idea of throat tuning. Robert Dick gives helpful exercises in his extended technique books that will help you play these better. One tip I can give now is practice starting on the first note, slide to the second and then slide back to the first. This will help you create each note and eventually figure out what needs to happen with your air and embouchure to get both notes out at the same time.

Final Comment: This piece is considered contemporary because I am still alive, but really, it is not thought of as a contemporary Classical Art piece of music. My recommendation is that since there are so many new and interesting techniques in *Zoom Tube*, just take one at a time and master that first. Don't feel like you have to start at the beginning and struggle through it. Many of the concepts build on one another. Finally, take all of the ideas written in this piece and try to improvise on them. This will help you feel more comfortable with the piece as a whole.

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